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Coming: A Law of Communications Conference†

In the debate over the spread of resources among the rich and the poor nations of the world, issues like higher commodity prices and more foreign aid have become well known. In this article an emerging North-South issue is identified and discussed briefly. It centers on a natural resource called the radio spectrum.¹ Like some other issues, this can seem arcane, the subject matter being enveloped in technical language that eludes both diplomats and economists. The stakes are nonetheless real. And so too is the leverage of the less-developed countries (LDCs) who collectively comprise the Third World.

The debate over this resource will be another test of just how far the United States and the other industrialized countries are prepared to go in trying to satisfy the demands of the LDCs. The test will not be unlike that of the Law of the Sea Conference. Indeed, the sea law analogy is so strong that it seems sensible to say that a *Law of Communications Conference* soon will be at hand.

Perhaps because man has so long used the oceans, the importance of the sea law conference is easily understood. Extending the three-mile territorial limit to twelve and gaining assurance of passage through narrow straits are of obvious military significance. Fishing rights, a 200-mile offshore resource zone,

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¹The electromagnetic spectrum is characterized as a range of frequencies, a word which means rate of speed of oscillation as measured in cycles per second or "hertz." The portion of the spectrum occupied by radio frequencies starts at an oscillation rate of 10,000 cycles per second or 10 kilohertz (10 KHz). And, while the range goes up to 3000 billion cycles per second or 3000 gigahertz (3000 GHz), there are practical limitations that keep nearly all usage under 40 billion hertz. In fact, a much smaller portion of the spectrum has the heaviest usage because the lower frequencies have more favorable propagation characteristics for the greatest number of communicators. This point is illustrated by radio and television stations which, in the U.S., occupy 37 percent of all the spectrum in the range between 27.5 MHz and 1215 MHz. Broadcasters find these relatively lower frequencies to be desirable for transmitting their signals through space to numerous and scattered receivers.

and ocean pollution control are of high economic importance to many countries. And mining the rich mineral deposits of the deep seabed is so promising a prospect that the sea law conference could end in failure because the industrialized and the developing countries are split on how the multibillion-dollar benefits of seabed mining could be distributed.

For a Law of Communications Conference the stakes are similar, if not so apparent. What this conference is empowered to do is to establish a set of international rules to govern the use of a limited global resource, the radio spectrum. Preparing communications laws for allocating and regulating this finite resource is to be the work of a World Administrative Radio Conference (WARC) to be convened in Geneva in 1979.² Since the conference will be under the auspices of the International Telecommunications Union (ITU), a specialized organization of the United Nations, the meeting will provide another forum for the North-South debate.

At the heart of this coming Law of Communications Conference are two questions. Why has the radio spectrum become so valuable a global resource? And why is it likely to soon emerge as a leading North-South issue?

²Since the radio spectrum knows no national borders, the process by which it is allocated is inherently international in nature. For reasons of self-interest, governments have periodically assembled to promulgate regulations for the efficient sharing of this natural resource. To do otherwise would invite chaos. If common rules are not followed, signals competing for use of the same frequency would cause mutual interference, thus degrading, even destroying the value of the information being transmitted.

The rules of allocation of spectrum are set at International Telecommunications Union radio conferences. From time to time, there are special conferences that deal with particular forms of communications such as maritime or outer space. Then there are infrequent general conferences, the last was in 1959, the next will be in 1979.

At the general radio conferences, the entire "table" of frequencies is allocated by "band" and by geographic region. In accordance with these international decisions, national governments make assignments of specific radio frequencies to particular users. Overall, this is a complex and very technical task. A fairly simple example, however, reveals the nature of the process. For all regions of the world the frequencies 535-1605 KHz are allocated as a band for broadcast service. In the United States the frequencies in this band are in turn licensed by the Federal Communications Commission to some 4,000 AM radio stations. To accommodate so many stations, the transmitting power, antenna direction, and broadcast hours of each station are set by the FCC. The purpose is to achieve efficient sharing of this band, without any station's signal interfering with that of another.

Problems of interference could occur, however, if, in the absence of an international agreement, a foreign country used this band for international broadcasting. Similarly, if neighboring countries assigned the same frequency to respective local stations whose broadcasts spill over the border, interference could occur. Situations of this kind would make the affected broadcasts difficult, perhaps impossible to listen to. To avoid interference the international radio conferences have established a quasi-regulatory organization within the ITU which registers frequencies and has some limited authority to settle conflicts. For a detailed examination of how the ITU regulates in this area, see DAVID M. LEIVE, *INTERNATIONAL TELECOMMUNICATIONS AND INTERNATIONAL LAW: THE REGULATION OF THE RADIO SPECTRUM*, Dobbs Ferry, N.Y.: A. W. Sijthoff/Leyden, 1970.

The Invisible Resource³

The radio spectrum is both an invisible and a vital resource, especially for modern societies. From an economic perspective, the spectrum's principal value is in its use for transmitting information. The \$6 billion a year U.S. broadcast industry depends on spectrum, as do its consumers, the American public, who have invested over \$30 billion in radio and TV receivers. So also do the seventy percent of all long distance telephone calls in the U.S. that travel by microwave. So also do airplanes, ships, emergency vehicles, and spy satellites. Even the common delivery truck uses the invisible spectrum resource when equipped with a two-way radio which enables a dispatcher of the motor vehicle and its driver to communicate more effectively. It has been estimated that three radio-equipped vehicles can do the work of four without radios.⁴

These and other uses of spectrum by American communicators have become so heavy that serious congestion already exists in the lower range of frequencies—and the situation is worsening as the booming popularity of citizen's band radios dramatizes. In a recent statement the Federal Communications Commission stated repeatedly: all the demands for spectrum, including those by the United States government itself, which is the single biggest user for military and other purposes, cannot be satisfied.⁵ The problem, moreover, is not unique to the United States. In Japan, for instance, "The level of congestion is very serious, especially in the larger cities," according to Y. Maki, Director General of Japan's Radio Communications Department.

At the heart of all this demand is an interplay between rising technology and rising human need. The impact of technology has been threefold. It has created new modes of communications like satellites. It has dramatically cut communications costs through inventions like large-scale integrated circuits. And, to a limited extent, it has produced ways to conserve spectrum with devices like single-side-band transmitters. Society, meanwhile, has found ever expanding and very often vital ways to apply communications technologies. Thus, the forces of technology and human need combine to bring more and more communications devices into service, with one result being spectrum congestion.

³Harvey J. Levin's *THE INVISIBLE RESOURCE* (Baltimore: Johns Hopkins Press, 1971) offers both an introduction to the use of the radio spectrum and an economic analysis of spectrum allocation.

⁴REPORT OF THE ADVISORY COMMITTEE FOR THE LAND MOBILE RADIO SERVICES, Federal Communications Commission, November 30, 1967, GPO; cited in *THE RADIO FREQUENCY SPECTRUM*, a report by the Office of Telecommunications Policy, Executive Office of the President, Washington, D.C., August 1975, p. F-4.

⁵See Third Notice of Inquiry, Docket No. 20271, Federal Communications Commission, Washington, D.C., November 23, 1976.

One of the best illustrations is the maritime industry. Between 1947 and 1975 the needs of many countries for greater international trade prompted an eighty percent increase in the actual number of ocean freighters. Moreover, with both better engines and more efficient ports, this vastly expanded merchant fleet spends more time at sea. As a consequence, the radio requirements of international shipping have substantially increased.⁶ One new response has been a satellite communications system. But while MARISAT, as well as existing systems that have been technically improved, today provide enhanced reliability in transoceanic communications, these systems also lead to greater usage of spectrum. And the situation is similar for virtually every form of wireless communications—aeronautical mobile, international broadcasting, land mobile, radar, radio astronomy and so on.

One way to meet a particular demand for more spectrum is with a technical-economic solution. The standard communications satellite is a case in point. In the early 1960s telecommunications service by satellite was a promising technology to meet the communications needs of proliferating international affairs. Spectrum, however, was a problem. All the suitable spectrum already had been allocated. It was possible, however, through system design and engineering for satellites to share frequencies with terrestrial microwave services. The cost of building ground stations was increased; the number of ground stations, however, was few. Today the domestic satellite field is opening up. To have—not just a few—but hundreds of satellite earth stations share frequencies with terrestrial microwave stations would present a much more complicated technical-economic problem.

So not only is the demand for spectrum increasing, but the problems of spectrum congestion are becoming more difficult to resolve. It is against this background that the 1979 World Radio Conference is to be held.

New Politics and Politicians

A fundamental difference between the coming communications law conference and the last general radio conference in 1959 is the changed nature of world diplomacy. In recent years items like energy, food, and money have acquired new places of importance on the foreign policy agenda. For reasons of growing dependence and shortage, the invisible resource of spectrum is likely to assume a higher place, too. As the agenda has changed so also has the actual conduct of international affairs, with new emphasis on multilateral negotiations in bodies like the ITU.

Multilateral, or conference, diplomacy is nothing new. Its contemporary form, however, presents a challenge not fully experienced before, due to the

⁶*Ibid.*

expanded size of the international community. With the passage of colonialism, the number of countries has more than doubled. And, as a result, in one-country, one-vote fora the third world countries are the dominant political force—so long as their over 100 members stay united.

Until very recently, third world countries played a minor role in the history of making international communications law. The first international radio conference, held in Berlin in 1903, essentially was a German-British affair in that Germany sought to persuade the handful of attendees to break up the British monopoly over the then new technology of “wireless telegraph” for ships at sea. More recent international communications law has been influenced heavily by the United States, both because of U.S. political power and overall American leadership in the field of communications. This is not to say that the U.S. always achieved its objectives. It hasn’t. At the 1947 Atlantic City Conference, when U.S. postwar power was high, an American effort to recast the ITU as an “international FCC” failed in the face of “political realities.” At the time, European states—not less-developed countries—were political realities. Indeed, it is instructive to recall that the less-developed countries only date their joint political action from the meeting of “non-aligned” countries, as they were once known, at Bandung in 1955—just four years before the last general radio conference. Moreover, it was not until the 1960s that many third world countries gained their independence.

So, until a few years ago, the affairs of the ITU largely were under the control of the developed nations, with the larger, more communications intensive countries like the U.S. playing the leading roles. Under their influence, the technical aspects of telecommunications came to consume a lion’s share of ITU activities. This fact of ITU life accorded both with the desire of the industrial countries to best utilize their costly telecommunications investments and with the ability of the most modern countries to contribute a great deal of technical expertise to the union. A side effect, however, was that the emphasis on technical activity tended to exclude participation by the generally less knowledgeable representatives of the poorer countries. It also served to put a shadow of illegitimacy on their political interests. When, for instance, Pakistan at the last general radio conference in 1959 proposed to change the rules for frequency assignments in order to neutralize advantages held by the older countries, the proposal was seen as being “radical” and therefore unacceptable to the controlling majority of industrial countries.

Winds of change started blowing through the ITU during the 1960s. One sign was successful resistance by the developing countries to an effort by the U.S., among others, to downgrade the ITU’s independent frequency registration board. The board’s status was retained on the somewhat dubious grounds that the panel protected the interests of poor countries. Perhaps because

nothing much was gained or lost, this skirmish apparently did not precipitate any thorough reassessment of the ITU by Western governments. The view persisted in the West that the organization's principal utility was to produce detailed engineering reports, record frequencies, and handle similar technical matters. A serious clash between that western viewpoint and the political objectives of the Third World became inevitable.

A clash came at the 1973 Plenipotentiary when the third world bloc ousted from the conference the delegations of white-ruled South Africa and Portugal, which at the time still retained colonies in Africa. To some long-time participants, this was unwarranted politicization of the ITU and subversive to the organization's technical mission. Talk of withdrawing from the ITU circulated among Western delegations. That course of action was considered but rejected by the U.S., in the belief that even a somewhat politicized ITU was needed to carry out technical negotiations.⁷

It was during the same meeting in 1973 that the decision was made to hold in 1979 the first general radio conference in twenty years. And, with the poorer countries of the world to send two-thirds of the delegates, it will be a much different conference than the one two decades earlier that was controlled by the industrial nations.

With the leverage of their votes, the Third World can attempt to use communications in general and a spectrum in particular as instruments of economic, as well as political, change. The possibilities are there and no doubt will be pursued. As ITU Secretary General M. Milli has said, "The revision of the existing table of frequency allocations will be a positive contribution by the ITU to the introduction of a new international economic order."

The Sea Law Analogy

The movement by the Third World for a "new economic order" stems from the Sixth and Seventh Special Sessions of the United Nations General Assembly. Following these sessions, there has been a shift in third world political strategy. Less attention appears to be paid to "status" objectives like promoting the legitimacy of the Palestine Liberation Organization and more energy is being devoted to finding ways of improving the welfare of poor countries. To accomplish this, the LDCs have engaged the West in a number of fora. One, the Law of the Sea Conference, provides some insights which are

⁷See REPORT OF THE UNITED STATES DELEGATION TO THE PLENIPOTENTIARY CONFERENCE OF THE INTERNATIONAL TELECOMMUNICATIONS UNION, MALAGA-TORREMOLINOS, SPAIN, SEPTEMBER 14 TO OCTOBER 25, 1973, submitted to the U.S. Secretary of State by the Office of Telecommunications, January 7, 1974, Department of State document TD 43.

relevant to the communications law conference.⁸

The experience of the sea law talks suggest that all the parties entered the negotiations with undue expectations. None was further off the mark than the anticipated duration—one, perhaps two, short sessions. After five years of negotiations the end still is not at hand. The slow pace can be attributed to several factors: the cumbersome U.N. negotiating style, the array of coalitions on substantive as well as regional and ideological lines, and the technical complexity of some issues. So lesson number one is that contemporary multilateral diplomacy can be painstakingly slow.

A second lesson is more significant: multilateral or conference diplomacy has limits imposed by the politics of consensus; tradeoffs and compromise tend not to prevail. An explanation for this begins with an appreciation that the process of multilateral diplomacy draws substance from the concept of interdependence. The idea is that all the parties need each other and therefore they must make decisions collectively. Yet this approach runs counter to the normal inclination of governments to pursue specific objectives by maximizing their power. Instead of entering international negotiations in a spirit of sharing power, conference participants are prone to view their fellow negotiators as objects of their policies, not as decision-making partners.

In a world of 150 countries who send delegations to international conferences, a result of objective-oriented strategies is that the agenda becomes overburdened with item upon item and the concept of reaching a consensus agreement on a "package deal" becomes binding. An alternative like taking simple majority votes on specific issues is unattractive since consensus on a "package" affords the greatest protection for every participant's favored objectives. Thus, delegations easily can get locked into a rigid all-or-nothing situation in which the constant pursuit of national objectives diminishes flexibility.

Where multilateral conferences can really bog down is when the package contains issues whose resolution remains open due to their potential for leaving some winners and some losers. Mining the seabeds has been such an issue. The way in which the mining issue has been played out provides the kind of scenario that might be repeated at the 1979 radio conference.

At the sea law conference the Third World has carried the idea of how "international resources" should be exploited to a new level. Traditionally, the resources of the deep seas, like the radio spectrum in the atmosphere, have been, and continue for the moment to be, free and open to everyone. But this

⁸Primary documentation on the Law of the Sea Conference is available from four sources: U.S. Delegation Reports; U.S. Department of State; Congressional hearings by the House Subcommittee on Oceanography and the Senate Committee on Interior and Insular Affairs; a series of articles by John R. Stevenson and Bernard H. Oxman in *THE AMERICAN JOURNAL OF INTERNATIONAL LAW*.

approach insofar as the mineral deposits are concerned, no longer is acceptable to the poor countries.

At stake is the richest treasure of nickel, copper, and other minerals known to exist.⁹ To recover these minerals, which lie at the bottom of the ocean in the form of nodules the size of potatoes, requires sophisticated technology and substantial capital investments. The United States possesses both. American deep sea mining has not begun, however, because the Third World which has neither of the prerequisites has been trying to negotiate a change in the rules of the game.

The premise upon which this strategy rests is that the Third World has come to consider the mineral resources on the ocean floor to be the "Common Heritage of Mankind."¹⁰ The mineral treasure, in other words, is not to be taken freely, rather the mining must benefit everyone. Since only the United States, and a few other industrialized countries, are now capable of conducting deep sea mining, the Third World wants a novel plan for sharing benefits. Western companies would do the mining, with a portion of the revenues going to a new United Nations organization that in turn would distribute the monies to poor countries.

The *quid pro quo* in the plan is simple: the industrialized countries can have a "stable order" for the oceans in return for a price that is to be paid both in material terms and in terms of decision-making power. The choice, says Elliot Richardson, the chief American delegate to the sea law conference, is "between order and anarchy." But even the preferred choice of "order" has a high asking price. Indeed, there already is a price of delay, since the mining companies are reluctant to begin operations until the legal uncertainties are resolved.¹¹

An obvious question thus arises: will the Third World demand a heavy price at Geneva in 1979 for a "stable order" in communications?

Already a Latin American country, Colombia, has argued that its sovereignty extends upward to a portion of outer space that is ideal for positioning communications satellites. If this concept of sovereignty were sanctioned by international law, could satellite companies be taxed or otherwise be charged a fee for operating high above another country?

As yet no full set of demands has been articulated by third world leaders, indeed none may emerge until the communications law conference actually gets

⁹See OCEAN MANGANESE NODULES, Congressional Research Service Report for the Committee on Interior and Insular Affairs; United States Senate, February 1976.

¹⁰For an examination of the background to the Law of the Sea Conference, see John Temple Swing, *Who Will Own the Ocean?*, FOREIGN AFFAIRS, April 1976, pp. 527-46.

¹¹William Wertenbaker, *Mining the Wealth of the Ocean Deep*, The New York Times Magazine, July 17, 1977, p. 15-32.

underway and the participants have engaged in preliminary bargaining. Nevertheless, the expectation should be that the poor countries will view the coming conference on communications law, like the sea law conference, as an opportunity for implementing a "new economic order." They will be able to pursue that goal from an unusually strong position because the industrialized countries, due to their dependence on the radio spectrum, need order—not anarchy—for that truly global resource.

The Alternative Solution

It is far from clear that the United States and other Western nations are willing to accept dramatic changes in the rules of the game in return for stability, either for the sea or for the spectrum. As former Secretary of State Henry Kissinger once said: "There are limits beyond which the United States will not go." Still, in recognition of the consequences of failure at the sea law talks, Kissinger put forth what may be called a "mutual gain"¹² solution—half the ocean floor would be open for free exploitation, the other half would be reserved for exploration by a U.N. organization on behalf of the poor countries. The proposal, made during the American presidential campaign, failed to attract much support around the world, apparently because the LDCs calculated that if Jimmy Carter were victorious a more generous offer would be forthcoming.

But, whether the topic is sea or communications law, and regardless of what are the general policy attitudes of the incumbent administration, no U.S. government is completely free to formulate such policies. There are both internal and external constraints. A process of eliciting agreement both from the government's own and many bureaucracies and from the nation's formidable private sector is necessary. The task is none too easy because, with the demand for frequencies constantly increasing, difficult choices must be made. One government official has put it this way: "Should we be broadcasting the Voice of America message better to enslaved nations or should a guy in Oklahoma with a citizen's band be able to radio his wife and tell her he'll be late for dinner? That's facetiously put," the official said, "but those are the kinds of choices."¹³ In addition to the bargaining among rivals for frequencies at home, the U.S. also must consult with its friends abroad before the formal ITU negotiations begin in Geneva. With so many interests to accommodate, it is inevitable that the U.S., under any administration, will—at best—pursue evolutionary reforms of the international system, not quick and fundamental

¹²The "mutual gain" approach is discussed in an article, "A New International Economic Order for Mutual Gain," Richard N. Cooper, *Foreign Policy*, Spring 1977, pp. 66-120.

¹³Washington Post, May 1, 1977, at H2.

restructuring as has been called for by some militant spokesmen in the Third World.

Moreover, this policy formulation process will—also at best—favor “mutual gain” solutions. Any other alternative to benefit poor countries would be at the direct expense of some rich countries. “Zero sum” games in which there are winners and losers, as for instance would result if the Colombian argument were accepted, are bound to trigger opposition. And the risk, as demonstrated by the sea law talks, is that opposition can precipitate deadlock.

For stalemate to beset the coming Law of Communications Conference would be potentially dangerous in two respects. First, countries probably would begin to assert unilateral claims on the spectrum and thereby trigger international friction, even conflict. Second, a dark cloud of discord would be cast over the axis of North-South relations that is becoming crucial to global security and human welfare.

To avoid these outcomes will, as I see it, mean that the delegates to the World Administrative Radio Conference have no choice other than to devise “mutual gain” solutions to spectrum allocation issues. Admittedly that pursuit may very well be as arduous as that at the Law of the Sea Conference. The expectation should not be otherwise for the nature of the issues is similar, the settings are parallel, and the participants, though not identical, represent governments who hold basic positions that transcend both subjects.

So the pursuit of mutual gain at Geneva in 1979 promises to be no easy task. Yet, it seems to be a necessary one.