T W E L V E

Piracy of Satellite-Transmitted Copyright Material in the Americas: Bane or Boon?

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The development of all kinds of electronic technologies in the past two decades—from cable television to videocassette recorders and satellite transmissions—is taking us from an age of the written word to a new era of audiovisual communications. While literacy is still an important factor in assessing the development of a particular society, it is likely that in the near future a society's development will be measured by the number of television and telephone sets at its disposal.[1]

The vast majority of the communications media are under the effective control of a few countries, and with respect to the use of satellites for television broadcasting, the United States is clearly the leader in the field.[2] At the same time that more television programs intended for U.S. audiences are transmitted by satellite, the number of unintended recipients has also increased. The piracy of satellite signals has great implications for the future development of the economy of the "thieving" countries, as well as for the economic protection of the copyright owners of the pirated programs.

The entities involved in "poaching" satellite signals range from individuals to government organizations. Their acts affect not only the owners of the intellectual property that is being used without remuneration but they also have repercussions on international relations and the formulation of foreign policies.

This paper will consider the interrelationship between copyright laws, the various international organizations whose activities are related to communications by satellite, and some of the implications raised by the piracy of satellite signals. The focus will be on the Americas, or what the International Telecommunication Union has designated as "Region 2."

Copyright legislation differs from country to country and is rarely applicable extraterritorially. Because it is difficult to assess how domestic legislation is applied to the issue of satellite signal piracy, the particular provisions and practices of the countries in Region 2 will not be considered.

The use of geostationary satellites for communication purposes was suggested by Arthur Clarke in 1945,[3] and what seemed to be a science fiction proposal at the time became a reality by the 1960s. The first satellite to be launched was the Russian "Sputnik" in 1957, followed by the launching of an American satellite in 1958. In 1963, the first transatlantic color-television pictures were transmitted by satellite.[4] Since then, satellites have become increasingly important for the transmission of data, voice, and television signals. Between 1974—when the first domestic communications satellite was launched—and 1984, hundreds of such satellites have been used for communication purposes.[5]

Most communications satellites are located in geostationary orbit, 22,300 miles above the earth's equator. Satellites that are used by U.S. companies for the transmission of domestic television programs are located in this orbit, and as a result, the countries situated between the equator and the continental United States fall within the satellites' "footprint" or the area in which those satellites transmit. Furthermore, some of the geostationary satellites are capable of covering up to 40 percent of the earth's surface with their signal. Thus, with three satellites covering the whole world, it is obvious that nearly everyone will be within the

"footprint" of at least one satellite, and will be able to receive its signals, whether or not they are intended for them.

For purposes of copyright analysis, three types of communications satellite systems are distinguished: point-to-point, distribution, and direct broadcast satellites (DBS hereinafter). The point-to-point system is a direct link between two particular earth stations, and the ultimate users receive the transmission by cable or radio. Distribution satellite systems also use conventional cable or radio to retransmit the signals. The difference between these two systems is that transmissions via distribution satellites are intended for more than one receiver or earth station.[6] At the same time that there is wider distribution of the signal, or more intended receivers, there is also the increased potential for interception of the signal by other parties.[7] DBS, on the other hand, is intended for direct transmission of messages to individual receiving sets, without first converting the signal at an earth station.[8]

The main differences between these three satellite systems are the size of the amplification power and the directionality of the satellite. The more powerful the transmission capability of the satellite, the less need there is for a large and costly earth station which can receive low-power signals.[9] Thus, the earth-receiving stations can use smaller antennas or "dishes," depending on what type of satellite transmission is being received. The parabolic dishes no longer need to be meters wide—smaller dishes, a few feet in diameter, are quite capable of intercepting satellite signals and of receiving clearly defined images.

At the same time, reception of the signal by ground stations has been simplified and made less costly. This has also led to an increase in the interception and illegal distribution of the satellite signals. It is now possible for people with the most rudimentary equipment and small dishes to receive television signals if they are within the satellite's footprint. Thus, many individuals and government entities in the region between the equator and the United States have been engaging in "satellite poaching," receiving programs intended primarily for U.S. audiences without paying any of the usual licensing or copyright fees associated with the broadcasting and distribution of television programs.

The poaching of satellite signals raises many questions,

not only the one of compensation for copyright holders. Among the other issues raised is the question of the impact that U.S. programs have in other countries; whether the prior consent of the receiving country is necessary; what legal sanctions are available? These questions are addressed below.

THE IMPACT OF U.S. BROADCASTS BY SATELLITE ON DEVELOPING COUNTRIES

Since the beginning of communication by satellite, there has been a need for the regulation of these activities, taking into account the sovereignty of each country over its communications, and at the same time, recognizing the need for international regulations concerning radio communications. In 1969, the United Nations Committee on the Peaceful Use of Outer Space (COPUOS) established a Working Group on DBS, to consider not only its technical feasibility, but also its legal and political implications.

Since the early debates on DBS, the United States has been a strong advocate of the "free flow of information," whereas other countries have taken the position that prior consent or prior agreements should be reached regarding the direct broadcasting of television programs to other countries. The United States, however, views prior consent as just one form of censorship, and antithetical to its philosophy.[10]

One of the fundamental issues concerning the "free flow" of information as well as direct broadcasting by satellite is that "freedom" means the continued superior position of the United States regarding the flow of information. The United States, which produces and exports the majority of the world's films and television programs, also controls most of the means of distributing these globally.[11]

The imbalance in the world flow of communications led a few years ago to the call for a "New World Information Order,"[12] one which would establish a two-way flow of communication from the developing countries to the industrialized nations. What is perceived as the actual one-way flow, from the developed countries to the less developed ones (LDCs hereinafter)

has to be restructured. As one commentator noted, "a nation whose mass media are dominated from the outside is not a nation."[13]

One concern of other countries is the gradual homogenization of the world's cultures, dominated by American values, American advertising, American television and films.[14]

The polemics generated by the New World Information Order are beyond the scope of this paper. It should be noted, however, that the increasing demand for participation in the world communication process has resulted in a growing awareness on the part of all countries of the need to create a more balanced system of information dissemination, of a more equitable distribution or allocation of communications resources, such as the geostationary orbit/spectrum.[15]

And yet, the increased use of satellites for the distribution of television programs (whether by FSS, BSS, or DBS), and the increasing piracy of these signals merely accentuates the disparity in the flow of information and hastens some of the ill effects—the saturation of the world by American television—which COPUOS' members want to avert. It also broadens the gulf between the countries which have developed communications systems and those who aspire to have greater control over their telecommunications infrastructure.

While the United States has over thirty communications satellites in orbit, the LDCs have but a few in operation: two Indian satellites, two in the Indonesian Palapa system, one Brazilian and one Arabsat satellite launched in February 1985. Yet the LDCs account for over 90 percent of the world's population. To date, few developing countries have the capability of distributing their own television programs via satellite—the exceptions being India and Brazil. But it is questionable whether these countries would have a non-domestic market for their productions, let alone a global market. It is very difficult to compete with U.S. technology and the American entertainment industry. Hence, it seems to be less expensive to pirate a satellite signal, and thus obtain an American television program illicitly.

However, this leads to the increased proliferation of U.S.-produced programs,[16] in spite of the opposition which the

developing countries have voiced to transmissions without their prior consent. It could be concluded that their prior consent is required only in the case of DBS.[17]

The continued broadcasting from U.S.-based companies, and the continued reception of television by satellite will have a broad impact on the economies of the receiving countries. The entertainment industries, advertising,[18] leisure activities, and employment in these sectors will all be affected, both in the developed countries and the LDCs. Telecommunications affect every sector of the economy, from entertainment and education, to transportation.[19]

In spite of the protests by different nations, claiming that they want to maintain their cultural and national sovereignty, satellite poaching increases. The signals that are most pirated are those intended for U.S. audiences, primarily subscribers to special television broadcast services, such as "Home Box Office" (HBO). The pirating is done by home-installed parabolic dishes, as well as via earth stations that access the INTELSAT space segment. The U.S. companies, which up to now have advocated the free flow of information, are finding themselves in the anomalous position of wanting to be paid for the programs that are being pirated by other countries in the Americas, to compensate copyright owners for the use of their programs. It seems that "free flow" does not mean without pecuniary compensation. It also seems that these smaller nations, which have no highly developed local television or film industries, believe that the benefits gained from pirating satellite signals outweigh the costs to their economies—for the time being.

The low cost of parabolic dishes and the proliferation of videocassette recorders,[20] have converted some of the Caribbean countries into the unintended beneficiaries of U.S.-intended TV programs. Hotel owners and other private parties as well as government bodies are engaging in the signal piracy. The poaching occurs in Spanish-speaking countries as well as on English-speaking islands. As the original transmissions are U.S.-made television programs or films, the American copyright owners are the ones who are suffering the most immediate economic harm because of the poaching. But they are not the only injured parties. Local

television producers and broadcasters are also affected by signal piracy.

The Motion Picture Association of America (MPAA) alleges that its total revenues from the Caribbean Basin, including television and film sales, are over $20,000,000 a year. It claimed that in Jamaica alone, its revenues from television sales dropped from nearly $100,000 to $60,000 in the course of one year. This decrease in revenues, according to the MPAA, was due to the fact that the Jamaican government had been pirating signals and re-broadcasting them locally, thus bypassing the U.S. TV program producers and suppliers.[21] The MPAA further reported that the gross income in movie theaters on several West Indian islands had fallen because many first-run films, which would normally be shown on the islands a year to eighteen months after their release in the United States, were available to the local television audiences shortly after their U.S. release—via pirated signals.[22]

Although the potential loss of revenue to the MPAA and other copyright owners may be significant, the economic impact of the piracy does not stop there. It will also affect the citizens of the various countries in several ways. For example, if newer films are available on television sooner than at the local theater, it is likely that people will stay at home and watch the TV for a nominal fee, or for free, rather than pay to see an "old" film. This will deprive theater owners of income, but also cause unemployment in certain sectors—theater managers, ushers, projectionists. Furthermore, whatever local television or film production industry that exists will find it very difficult to compete with the multi-million dollar budgets of the U.S. film industry. Obviously, if the local government or a private entrepreneur can provide "quality" programs at very low, if any, cost, there is no incentive to invest in the production of local programs or advertising. This will stifle the emergence of any native industries in these fields. On the other hand, offering U.S.-made television programs to guests at the local hotels may provide an added boon to the tourist industry, a major source of revenue on many of the Caribbean islands.

On another level, the cultural impact of daily American TV fare will be hard to assess, but it is bound to have some influ-

ence on the local values and customs of these countries. On the one hand, it might stimulate the desire for local social and economic progress and development. It may also spur some action to protect local folklore and other cultural heritage. On the other hand, it may make the lack of progress more apparent and acute, leading to a sense of deprivation and frustration among the populace.[23] In addition, the differences in languages can become a major problem: many of the Caribbean countries are English-speaking. But there are a number of them where the official language is Spanish or French. Although it is difficult to gauge the impact that American broadcasts will have on the non-English-speaking viewers, undoubtedly it will have some effect. Will it destroy their language, and further contribute to the erosion of their distinctive cultures, or will it act as an incentive to the governments to protect their linguistic heritage as well as their cultural values?[24]

Providing low-cost entertainment to the tourists as well as to the local populations by way of poached satellite signals is saving the governments of these countries a considerable amount of money which can be used for other purposes—to develop other areas of their society or economy. This could be an important inducement to countries already suffering from balance of trade problems, and perennial deficits. Particularly in countries of low per capita incomes, the money saved on developing domestic television programs might be better spent on improving local health care.

The saturation of the broadcasting world with American TV programs and films, and the resulting loss of cultural differences, which has been of concern to the LDCs, is now reality, and aggravated by their own doing. The New World Information Order, which many of the developing countries advocate, will not change the flow of information or of programs from the outside so long as these countries continue to rely on American programs at the expense of their own industries and cultures. These countries are likely to remain passive recipients of information disseminated by a few other countries.[25]

The LDCs need to assess whether the "free" television programs are worth the costs in other areas of their development

and intellectual independence. The United States will also have to reassess its position regarding the free flow of information: Should signals intended for American audiences be receivable by anyone possessing an earth dish, or should they be encoded? The United States will also have to consider whether the economic harm to its copyright owners is outweighed by the benefits that other audiences obtain from these programs, or are the costs greater than all the benefits?

With the likely expansion of television broadcasting by satellite, the possibility of signal poaching increases, not only in foreign countries but also domestically. One of the underlying issues, then, is how to protect the intellectual property that is being taken without compensation, how to equitably compensate the copyright owners for the use of their creation, and which—if any—international organization is able to offer and implement this protection?

INTERNATIONAL INTERGOVERNMENTAL ORGANIZATIONS

Several international organisms have been involved since the early days of satellite communications in establishing parameters for these activities. Among these are two specialized agencies of the United Nations, the Committee for the Peaceful Use of Outer Space (COPUOS) and the International Telecommunication Union (ITU). A third global organization, INTELSAT, has provided for the commercialization of a global telecommunications satellite system. Their role, particularly vis-à-vis the piracy of copyrighted television programs relayed by satellite, will be considered below.

The U.N. Committee on the Peaceful Use of Outer Space

Since its establishment in 1959, COPUOS has had the task of formulating norms of conduct for the exploration and peaceful use of outer space. It was noted above that since 1969, COPUOS took under consideration the issues related to DBS, but it has not addressed the problems arising from the use of other satellite systems (FSS or BSS) for television transmissions.

COPUOS formulated some guidelines regarding DBS, and these principles were adopted in 1982.[26] The principles call for the prior consent of receiving countries, but the poaching of satellite transmissions makes the need for prior consent moot.

Regarding the protection of copyright owners, the principles recognize the need to support them, but leaves it up to the different countries to "cooperate on a bilateral and multilateral basis" for the protection of copyright and neighbouring rights.[27]

COPUOS thus leaves the problem of protection of satellite signals and their content to domestic and bilateral agreements. It is not about to formulate an international law that would give global protection to copyrighted transmissions, as this is beyond the ambit of this agency.

The International Telecommunication Union

The International Telecommunication Union (ITU) is a specialized agency of the United Nations which, *inter alia,* formulates technical rules and regulations for the use of the radio frequency spectrum, including those that are to minimize signal interference between the different users. The International Frequency Registration Board, an administrative body which is part of the ITU, provides technical guidelines for the use of radio frequencies used by satellites. The IFRB is provided with basic operational data on any planned satellite system, which is then coordinated with the administrations of other countries. The goal is to design systems in a manner that will minimize satellite transmissions over foreign territory.[28]

As a result of the 1979 World Administrative Radio Conference, developing countries were given preferred access to certain frequencies in the radio spectrum. Under the new regulations, the entire geostationary orbital arc of Region 2 was open to both fixed satellite services and broadcast satellite services.[29]

In the Americas both the FSS and the BSS shared the same frequency band, but after the 1979 WARC, the allocation for the two services was separated. As a result of the ITU's Regional Administrative Conference (RARC) in 1983, the 12.1–12.2 GHz band was allocated to the FSS and the 12.2–12.3 GHz band to the BSS.[30]

The ITU has played a major role in establishing regulations for communications satellites, but these regulations are primarily of a technical nature.[31] Whereas the ITU Convention is legally binding on its members, its regulatory arrangements are not compulsory, nor does the ITU have any explicit enforcement powers. However, because communications by radio—and satellite—require the cooperation of the parties, the regulations are observed by most countries out of self-interest.[32]

The ITU cannot control the content of communications, as it merely recommends the technical parameters for these. The Radio Regulations (Article 17) suggest that each country adopt its own domestic measures to prevent the interception of signals by third parties, especially when these communications are not destined for the general public.[33] However, the ITU leaves the enforcement of this regulation to domestic law. The ITU cannot act as arbiter or censor. Like COPUOS, the members of the ITU believe that protection of the content is not its province. Rather, the ITU leaves it to domestic law to adopt its own measures to protect copyright owners whose transmissions are being pirated, as it has considered that it is beyond the scope of its Convention to regulate the content of any transmission.[34]

The International Telecommunications Satellite Organization

The International Telecommunications Satellite Organization (INTELSAT) is an international, intergovernmental consortium with "the aim of achieving a single global commercial telecommunications satellite system as part of an improved global telecommunications network."[35] Its prime objective is "the provision, on a commercial basis, of the space segment [telecommunications satellites] required for international public telecommunications services of high quality and reliability to be available on a non-discriminatory basis to all areas of the world."[36]

INTELSAT's members and users are the same entities. As signatories to the INTELSAT Agreements, they also establish the general rules concerning, *inter alia*, the approval of earth stations for access to the INTELSAT space segment.[37] Earth station facilities are usually owned and operated by domestic telecommunications entities, and are used primarily for voice and data

communications (although some of them are also used to pirate television programs from other U.S. satellites). INTELSAT, however, does provide transmission of television services of a "public interest" nature (current events of global interest) which are not protected by copyright laws. Television transmissions by INTELSAT have expanded, but still account for a small part of the services that this organization provides to its member-users.

As INTELSAT is owned by its member countries, it is unlikely that any of these states would try to impose any control on one another on the use they make of their earth stations that access the INTELSAT space segment. This would be considered an interference with domestic telecommunications policies, contrary to INTELSAT's principles and to general principles of international law. Thus, even though INTELSAT facilities make the poaching of satellite signals possible in some countries, INTELSAT itself is not in a position to censor or even suggest to its members in what activities they should engage. It is not in the position, either, to offer any kind of protection—economic or technical—to prevent any poaching of copyrighted television programs or films intended for U.S. audiences, particularly as the signals intercepted are not from INTELSAT satellites.

It appears that the three major international organizations whose activities relate directly to communications by satellite (COPUOS, the ITU, and INTELSAT) are not in a position, nor should they be put in such a position, to control the use that is made of satellite signals. Whether this use is legitimate or not, or whether the signal comes from FSS, BSS, or a direct broadcast satellite is not relevant. Other organizations are better equipped to deal with the theft of satellite signals, and these will be considered below.

INTERNATIONAL COPYRIGHT CONVENTIONS

Plagiarism—the stealing of someone else's intellectual property and using it as one's own—has been known to mankind for centuries. It is only in recent times, however, that owners of in-

tellectual property have received any protection and compensation for their pursuits.

The development of the printing press in the fifteenth century and consequent proliferation of printing and publishing of books necessitated the protection of the investment of publishers. In England, the Statute of Anne of 1709 granted certain privileges to printers and publishers, enabling them to protect their economic investment. The economic rights of authors were secondary to those of the printers and publishers. In addition, the publishers were granted exclusive rights of reproduction and distribution of the work, the right to protection for a limited number of years, and remedies for infringement of these rights.[38]

In the United States, the rights of authors were incorporated in the Constitution, Article 1, Section 8, which states that authors and inventors will be given the "exclusive Right to their respective Writings and Discoveries [for limited Times]."

Copyright protection generally means that certain uses of a work are lawful only if they are done with the authorization of the owner of the copyright. Among these exclusive rights are the right to authorize broadcasts of the authors' works.

Copyright laws are national in character—they are concerned with acts accomplished or committed in the country itself. The copyright protection is effective only in the country concerned—it is not applicable extraterritorially. Protection in foreign countries is obtained through bilateral agreements and/or international treaties.[39] The two major international copyright conventions are the Berne Convention for the Protection of Literary and Artistic Works, and the Universal Copyright Convention (BU and UCC respectively hereinafter).

There are several other conventions which protect other rights that are not protected by the BU or UCC. The Rome Convention of 1961 offers great protection to broadcasting organizations. The 1974 Brussels Convention Relating to the Distribution of Programme-Carrying Signals Transmitted by Satellite is the first international convention specifically concerned with the protection of satellite signals, but it does not protect copyright owners.

The provisions of these different conventions are applicable only to the signatory countries. As the United States has

ratified only the Universal Copyright Convention, it cannot invoke the provisions of the other conventions in seeking protection and/or compensation from pirating countries. It can only seek remuneration from other countries which are UCC members, or from those with which it has made special bilateral or multilateral agreements.

Both the Berne and Universal Copyright Conventions set forth the protection of authors' rights with respect to broadcasting: Article 11 bis of the Berne Union gives authors of literary and artistic works the exclusive right of authorizing "the broadcasting of their works by any other means of wireless diffusion of signs, sounds or images," and "any communication to the public by wire or rebroadcasting of the broadcast of the work, when this communication is made by an organization other than the original one." However, this article also states that "it shall be up to the legislation of countries in the Union to determine conditions under which the rights in [paragraph 1] may be exercised, but the legislation will apply only in the countries where the conditions have been prescribed."[40]

Article 11 bis (or 11/2) was added to the Berne Convention by the Rome Act of 1928, which consolidated and added two new rights to the rights of authors. Article 11 bis adds the broadcasting right as distinct from the public performance right and also provides for a compulsory license in the Convention.[41]

Similarly, under the Universal Copyright Convention, the authors are ensured the "exclusive right to authorize reproduction by any means, public performance and broadcasting." Article 4 bis of the UCC also provides that any contracting state, by its domestic legislation, may make exceptions to the authors' rights, so long as they "do not conflict with the spirit and provisions of this Convention."[42] These exclusive rights, however, may be preempted by means of compulsory licensing schemes, as provided by national legislation. The compulsory licenses usually provide for rights of remuneration, but not rights of authorization.[43]

Both the BU and the UCC require contractual obligations between author and broadcasting organizations in order to assess the payment of royalties to the author. One drawback

to these provisions is that, while they protect only the authors of literary and artistic works, they do not protect broadcasting organizations. Furthermore, even though authors have the exclusive right to authorize the broadcasting of their work, and to equitable compensation therefor, it has been questioned whether these provisions apply to broadcasts by satellite. Both conventions state that the exclusive rights are provided only for those transmissions intended for "direct reception by the general public," thereby precluding satellite broadcasts which are not so intended.[44]

Neither the Berne Union nor the UCC specifically defines "broadcast" or "broadcasting." However, the Rome Convention, which provides protection of neighboring rights and of broadcasting organizations, defines broadcasting as "the transmission by wireless means for public reception of sounds or of images and sounds" [Art. 3, (f)]. Under Article 13 of the Rome Convention, broadcasting organizations enjoy the right to authorize or prohibit certain acts, such as the rebroadcasting of broadcasts, the fixation of broadcasts, the reproduction of such fixations, as well as broadcasts in public places against payment of an entrance fee. Here, too, "it shall be a matter for the domestic law of the State where protection of this right is claimed to determine the conditions under which it may be exercised."[45]

Under the Rome Convention, the exclusive right of authors to authorize or forbid the use of their works disappeared, and the states are obliged only to prevent the distribution of signals by a distributor for whom the signals are not intended.[46]

The applicability of the Rome Convention to satellite broadcasts has been questioned. First, it is doubted whether the protection extends to the originating organization, which converts its programs into signals for relay to the satellite. The receiving earth station, however, which converts the signals and retransmits them to conventional receivers would be protected by this convention's provisions.[47] Second, as the Rome Convention is not universally accepted, and there exists much ambiguity as to its interpretation concerning space circuits, it was discarded as a possible solution to the piracy of satellite signals. The Rome Convention was felt not to apply to pirated signals because "their use would not infringe the broadcasting right recognized by the Con-

vention because the signal is not yet a broadcast in the technical sense used in the Convention."[48]

At the time the Rome Convention was drafted, the question arose whether satellite transmission constitutes "broadcasting." The definition of broadcasting provided in Article 3(f) was interpreted as applying only to transmission by *wireless means* for *public reception* [emphasis added], and reception by an earth station is not considered a "public reception." The narrow interpretation of the Rome Convention excludes satellite broadcasting because the transmission is not for public reception but for reception by an earth station. The wider interpretation is that whatever the technical means employed, the broadcast is eventually destined for "public reception."[49]

The broadcasting organizations point out that they may have no control over who picks up the signal they emit, and, therefore, they cannot be held liable for the communication of a program containing copyright work to an operator and an audience over which they have no control. However, other interpretations view all the phases of broadcasting—the uplink and the downlink—as integral parts of one operation, and therefore within the meaning of the Berne Convention Article 11 bis (I).[50]

Even if a different interpretation were given to the term "broadcasting," so that it would be held applicable to the satellite signal, American broadcasting organizations would not be able to avail themselves of the Rome Convention's protection because the United States is not a signatory to it. Several Caribbean countries are members of this convention, however. Among them Costa Rica, El Salvador, Guatemala, and Mexico. If their respective domestic legislations provided for broadcasting protection, they could claim this protection as against each other, but the United States would not be able to make any such claims.

As a result of the ambiguities in the Rome Convention, it was felt that other solutions were needed for the protection against unauthorized use of satellite-transmitted signals. In 1974, the Brussels Satellite Convention was drafted. This convention is not based on the concepts of copyright or neighboring rights, but rather on the prevention of distribution of signals by distributors for whom the signals are not intended. This convention would

create no new rights for broadcasters, but it was hoped that the new treaty would complement the Rome Convention.[51] In the Brussels Convention, "signal" was broadly defined as "an electronically generated carrier capable of transmitting programmes." A " 'programme' is a body of live or recorded material consisting of images, sounds or both, embodied in signals emitted for the purpose of ultimate distribution."[52] The first definition—that of signals—excludes operating signals, and "programme" excludes scientific or technical data, as well as private communications.[53]

The Brussels Convention does not apply where signals are intended for "direct reception from the satellite by the general public." Thus, Article 3 specifically excludes DBS transmissions, because the "originating organization" and the "distributor" are considered to be one and the same under this Treaty.[54] It would apply to FSS and BSS, however.

Another limitation of this convention is that under Article 2, it is left to each contracting State "to undertake adequate measures to prevent the distribution on or from its territory of any programme-carrying signal by any distributor for whom the signal emitted to or passing through the satellite is not intended." The obligation to prevent unauthorized use of the transmissions is on the receiving State, rather than on the transmitting State.[55] The "good faith" of the States in providing effective measures against piracy was to be assumed. The measures to be taken were left entirely to the States' discretion—they could include administrative or penal measures, as well as telecommunications laws or regulations.[56] As the treaty deals with international copyright prevention of signal poaching, other measures could be supplemented by agreements between the different States.

The Brussels Treaty exempts certain contracting States from its provisions: The contracting States are not required to apply "adequate measures" if the unintended distribution occurs in a developing country, and the "programme carried by the emitted signal . . . is solely for the purpose of teaching."[57]

This particular provision could provide an excellent rationale for the Caribbean poachers: for the most part they are "developing countries as defined by the United Nations" and they could claim that their distribution of the pirated signal is "strictly"

for teaching and educational purposes. Then the use of the satellite signal would fall under the "fair use" principle, thus not subject to copyright laws. (The Berne Convention and the UCC also make special provisions for developing countries and their use of copyrighted materials).[58]

The provisions in the various conventions making exceptions for the developing countries' use of copyrighted materials for "systematic instructional activities" are subject to these countries obtaining compulsory licenses for the use of these works, thereby ensuring the equitable remuneration of the copyright owners.

The Brussels Convention does not provide protection to copyright owners: one commentator noted that this convention deals with the "container," not the "content," so that the signals are protected, but not the programs emitted by them.[59] The convention does not create any economic rights for authors or other copyright owners, as it is not based on concepts of copyright law.[60]

Even though the Brussels Treaty is not a copyright convention, like the Berne and Universal Copyright Conventions, it is subject to the principle of national treatment: persons protected by the conventions can claim in all contracting States the protection that national laws grant to their own nationals. Nicaragua, Mexico and the U.S.A. are now signatories of the Brussels Satellite Convention; thus, the American signal transmitters are able to seek protection from satellite signal pirates under this treaty in Region 2, but only from the other signatories. Furthermore, this convention protects the signals, not the content, and the claims of the U.S. companies relate to their compensation for the unauthorized use of the programs—the content.

The Brussels Satellite Convention has been ratified by very few countries since it was drafted in 1974.[61] Obviously, its provisions have failed to receive universal support. The United States' interest in this convention has increased recently, especially with the increasing piracy of American satellite signals. Even the U.S. Copyright Office, in a recent report, had recommended its prompt ratification which was effected early in 1985.[62] However, even with ratification of the treaty, the U.S.A. will be unable to receive adequate protection of its interests, unless the countries

in which it would be claiming such protection have effective domestic legislation providing sanctions against signal piracy. As in many instances it is the government or State-controlled telecommunications facility which is engaged in the piracy, it is unlikely that it will prosecute itself.

One of the difficulties of copyright owners who seek compensation for the unauthorized use of their works is that each country has varying levels of protection for copyrighted works. Thus, "national treatment" may be minimal or nonexistent, especially regarding broadcasting rights, which can be preempted by compulsory licenses administered by the country in which such license was granted. The remedies an injured party may be able to obtain are those it might contract for individually or by way of bilateral agreements.[63]

At present it would seem that U.S. copyright owners have little recourse by way of copyright laws to seek, and receive, compensation for the pirating of satellite signals in Region 2. Other means of compensation have been sought, with some apparent success.

In 1983, the Caribbean Basin Economic Recovery Act was passed by the United States Congress. Title II of this law conditions the Caribbean States' eligibility for assistance and import tariff benefits on compliance with several criteria. One of these provides that:

> the President shall not designate a country a beneficiary country if a *government* owned entity in such country engages in the broadcast of copyrighted material, including films or television material belonging to the United States copyright owners without their express consent.

Another provision states that:

> the President shall take into account, in making his determination, the extent to which such country prohibits its *nationals* from engaging in the broadcast of copyrighted material, including films or television material belonging to the United States copyright owners without their express consent.[64]

The Caribbean Basin poachers—whether private parties or government organizations—will come under the scrutiny

of the United States President in his determining whether their country will be eligible for the special economic assistance that will be provided by this act.

One of the difficulties in relying on international treaties for the provision of remedies is that the treaties are enforceable only as against the governments which are parties to the treaties, and are enforceable through diplomatic channels. The American government may be able to apply certain economic sanctions against the governments of the countries engaged in satellite signal piracy, but there is little, if any, recourse to be had against private parties unless remedies have been provided for on a contractual basis.

However, if there is no contract between the U.S. copyright holders and the poachers, only the threat of economic sanctions will lead to compliance with the CBI's requirements. These may be effective threats, as the following example attests: "[the island of Antigua] was excluded from a list of those eligible for CBI's trade concessions, aid programmes and other economic benefits" because Antigua's national television service, ABS, was making unauthorized use of U.S. satellite television signals by retransmitting them locally. Since the delay in being considered eligible for economic aid under the CBI [Caribbean Basin Initiative] Antigua has made arrangements with several program sources.[65] The U.S. government policy is to withhold economic assistance until there is contractually agreed compliance; in this instance it has proved to be effective.

On the other hand, local governments might hesitate to prosecute private parties who are using pirated programs, particularly if the State-controlled broadcasting organization is also engaged in pirating.[66] Their own "unclean hands" would prevent them from effectively prosecuting the private pirates.

Another point that needs to be considered is the actual economic harm which the U.S. copyright owners are experiencing. The Motion Picture Association alleged that it lost about $40,000 worth of revenues in one country in one year.[67] Compared to its gross revenues of over $20,000,000, this is a paltry sum. Furthermore, the United States is receiving copyright payments from the countries involved in satellite piracy, through the World Intellectual Property Organization (WIPO) which administers the

Berne Convention and other copyright conventions. The American copyright owners also receive compensation through UNESCO, which administers the Universal Copyright Convention, for the use of U.S. television programs and films.[68]

The nonpayment of copyright royalties remains a serious problem, however, and one which is bound to grow.

In a recent report by the U.S. Copyright Office, it was stated that the "copyright industries are losing $1.5 billion in foreign earnings each year through unauthorized use of works copyrighted in the U.S." Another report by CBS notes the U.S. International Trade Commission alleges that the losses run between $6 and $8 billion yearly, due to foreign counterfeiting copyright and patent infringement.[69] These reports, however, fail to state how much income is earned by U.S. copyright holders. Obviously, satellite piracy cannot account for losses in the billions of dollars, but it is a serious economic problem for U.S. copyright owners.

There is also some discontent with foreign countries who impose foreign currency restrictions and other obstacles in the repatriation of profits, and with those countries who impose "cultural restrictions" as trade barriers. The American producers whose products already account for nearly 75 percent of the world market in television programs are complaining of quotas imposed on them by certain countries![70] The focus of these two reports is primarily on the economic and trade aspects of copyright. As the thrust of American copyright law is also economic compensation rather than protection of the moral rights of authors, it is fitting that "cultural restrictions" are regarded as trade barriers rather than as a desire by other countries to promote and protect their own authors and creative industries.

At the same time that the executive branch was seeking to impose economic sanctions on the countries engaged in poaching satellite signals with the Caribbean Basin Initiative law, another branch of the government was authorizing more satellite broadcasts by American companies to the same area. In 1981, the Federal Communications Commission, in its *Transborder Satellite Video Services* order, authorized several U.S. corporations to extend their existing services as well as to provide new television

channels via American satellites to several Caribbean islands and countries, among them the Caymans, British West Indies, Bermuda, and Costa Rica. The FCC authorized these services as being in the "national interest" and not contrary to any foreign policy objective of the United States. The latter conclusion was based on its estimation that the new services were only "transborder," and not international, as they are "merely incidental to domestic [U.S.] services."[71]

Because of the potential economic harm that these services would cause to the services provided by INTELSAT in this region, COMSAT argued that the damage would be immeasurable, and also contrary to INTELSAT agreements.[72] However, the FCC apparently dismissed these arguments as unsubstantial, and decided that the television services proposed for the Caribbean countries would cause little foreseeable economic harm. The FCC did not specify which party would suffer "little economic harm," but obviously, the American corporations would not be adversely affected. On the contrary, the transborder extension of these services would provide additional revenues to the U.S. television programmers and carriers,[73] goals which are considered to be in the national (U.S.) interest.

The commission further considered that the 1962 Communications Satellite Act, INTELSAT agreements, and U.S. international telecommunications policies allowed the FCC to authorize the use of domestic facilities for the provision of international (voice and television) public telecommunications services.[74]

The Department of State, in its advisory capacity, cautioned the FCC that even though it might be in the interest of the United States to use domestic satellites for public telecommunications with nearby countries, "certain types of services may be of concern in the minds of neighboring governments. Their concurrence in all instances should not be assumed.[75] At least the State Department was cognizant of the fact that the receiving countries' prior consent, and that INTELSAT's approval, would be required.[76]

Subsequent to the adoption of this FCC order, the National Telecommunication and Information Administration

(NTIA) asked the FCC for a stay of its decision, at least until the United States received assurances that the "interests of the U.S. copyright owners [would] be adequately protected."[77] The United States will have to negotiate with the members of the Berne Union regarding the copyright protection which will be given to the American owners. As the United States is not a member of the Berne Union, whatever protection is sought in Bermuda, the British West Indies, Costa Rica, and the Bahamas (all BU countries) will have to be obtained through bilateral agreements, rather than through the provisions of this copyright convention.

It seems that the different branches of the U.S. government not only have different goals and policies regarding international telecommunications, but that they are unaware of each other's decisions and the impact these varying stances will have abroad. The FCC's position seems to be that what is good for American carriers must be good for their "transborder" clients. The Department of State, officially the foreign policy spokesman of the American government, seems to be aware of some of the implications of the FCC's decision, but does not really spell these out; it merely cautions that the needs of the "transborder" governments should be considered. On the other hand, the NTIA, an agency of the Commerce Department, emphasizes the need to protect the American copyright owners, without taking into account the economic impact the FCC's decision and these different policies will have abroad.

Thus a full circle has been drawn: beginning with the fears of the developing countries regarding their inundation by U.S. television programs, and ending with these services being described as merely incidental to domestic services, and not really of consequence in international telecommunications. The FCC's authorization of these new "transborder" satellite video services will merely add to the continued dominance of American-originated communications services, without necessarily adding to the development of local communications systems in these countries. While the economic gains of American carriers, and the protection of American copyright owners are important goals, they should not overshadow the concerns and needs of the rest of the world.[78]

None of the parties involved in the problem of pirating

satellite signals—the MPAA, the governments abroad, the U.S. carriers and U.S. government—has addressed itself to the long-term economic, social, and cultural impact that the piracy will have on local populations, international telecommunications, and international relations. Although the threat of economic sanctions and retaliation on the part of the U.S. government may act as a deterrent to some countries, it is unlikely that the signal piracy by private parties will end. With DBS on the near horizon and the growing lack of distinction between fixed and broadcast satellite services, these problems will just be accentuated, as copyright infringement will be made easier and less subject to control.

Short-term, as well as long-range solutions to the poaching and other related problems need to be developed.

ALTERNATIVE SOLUTIONS TO THE UNAUTHORIZED RECEPTION/USE OF SATELLITE-TRANSMITTED COPYRIGHTED MATERIAL

To date, the international copyright conventions, such as the Berne Union, the UCC, the Rome and Brussels Conventions, offer few viable solutions to the problem of signal piracy. Except for the Brussels Satellite Convention, the goal of the international copyright treaties is to protect intellectual property and to prevent its unauthorized use. The level of protection differs from country to country, and few copyright laws have provisions dealing with the new technologies.[79] The traditional remedies for copyright infringement—seizure of the infringing works or injunctive relief—are not suitable to satellite signals, and especially not in an international setting. Furthermore, the courts of different countries might be reluctant to grant jurisdiction, let alone substantive rights and remedies to the foreign plaintiff.[80]

Bilateral or multilateral agreements regarding copyright infringements are difficult to enforce, except as between nation-states, which leaves private parties without a forum. These bilateral agreements also involve questions of foreign policy and international relations, and copyright protection is not at the core of foreign policy concerns.[81] (Even in the Caribbean Basin Initi-

ative Act the remuneration of copyright owners is but one of the many factors to be considered in its application.)[82]

One suggested alternative is the establishment of yet another copyright convention which would offer protection in the areas not covered by the Rome or Brussels Satellite Conventions. However, it is recognized that it takes years for international conventions to be drafted and adopted.

Included in the proposal for a new international convention is the establishment of a fee-collecting agency.[83] But this agency might be redundant, as organizations already exist for the administration of the copyright conventions. The World Intellectual Property Organization (WIPO) administers, *inter alia*, the Berne Union and Rome Convention. WIPO and UNESCO, therefore, would be in the best position to establish a blanket licensing system, to collect the licensing fees and disburse them. A special fee could be assessed on the users of satellites for the transmission of television and other entertainment programs. This fee, in turn, would be shared among the owners of copyrighted material that is distributed by satellite.

One benefit of having a supranational licensing arrangement is that all users of satellites for entertainment purposes would be subject to the licensing fee. This would obviate the difficulty encountered with present licensing schemes, which are limited to the country where the license has been established by national legislation, and its application is limited territorially to that country.[84] While compulsory licenses are administered by each country, and the copyright owner's authorization to use his work is not required, the owner is still compensated for the use. A similar licensing arrangement, but global in scope, would fulfill the same function. The amounts assessed from satellite users would be based on considerations similar to the ones on which domestic licensing fees or other royalties are calculated.

A supranational licensing system would offer better protection to copyright owners, particularly if granting the license were made contingent to the acquisition of any satellite-related hardware. Thus, purchasers of earth stations or individual dishes would pay, as part of their purchase price, a fee which would go to the global licensing agency, whether WIPO, UNESCO, or an

amalgamation of the two. Governmental and private entities would thus pay a fee (whether called a levy or a copyright fee would not be of crucial importance) at the same time that they obtained their equipment, whether from INTELSAT or from a private corporation.[85]

A blanket licensing system would be applicable to the existing point-to-point and distribution satellite systems as well as to future direct broadcast systems. It has been proposed that a blanket licensing system for DBS should include the originating organization's obligation to pay royalties based on the area in which it intends to broadcast. The royalty collecting organization would be responsible for payment in those areas of unintended reception, but the primary obligation for royalty payments would rest in the originating organization.[86]

The intricacies of negotiating for global blanket licenses for distribution and direct satellite transmissions might be lengthy, as they would necessarily involve several international organizations and the cooperation of all the emitting organizations and the receiving countries. In the meantime, the piracy and other unauthorized use of copyrighted material is likely to continue, and the copyright owners will still not be receiving any compensation.

It is submitted that a more expedient solution to the increased unauthorized interception of satellite signals is to scramble the signals that are transmitted by satellite, whether fixed, distribution, or future direct broadcast systems, particularly if the transmissions are intended for a limited number of subscribers or for particular audiences. Scramblers for both analog and digital signals are available. Furthermore, with the increase in digital transmissions, the encoding would be less cumbersome and less expensive. It would also be more efficient to encode the downlink portion of the signal, as the encryption could be done on the satellite itself.[87]

HBO is reported to be providing scrambling devices free of charge to the 6,200 cable television systems carrying its programs. Additional devices may be obtained for a cost of approximately $1,000 each. The encryption will be centrally programmed and patterns changed when necessary.[88] Other systems

available provide for the encryption of only the audio portion of the transmission. The video part can also be encoded, but at greater cost. It is estimated that these cable addressable baseband converters will sell for approximately $150 each.[89]

These two encryption systems are but two examples of the range of possibilities that presently exist. The distributors of satellite-transmitted television programs will have to determine whether the investment in the encryption systems will be worth the cost. Clearly, if HBO is willing to invest close to $10 million in its satellite scrambling system, it is because this will substantially curb its present loss of revenue through signal theft.[90]

It is submitted that encoding satellite signals, together with the establishment of a global blanket licensing system, would drastically reduce the incidence of signal piracy and concomitant loss of remuneration to copyright owners. Both of these solutions are applicable to existing satellite communication systems, including DBS.

Additionally, the developing countries would be in a better position to control the types of programs they would want to receive—they could obtain decoders only for specific signals. Their "prior consent" would be obtained upon their making the necessary arrangements for the decoder and the blanket license. They would be in control of the reception of satellite signals, and could avoid being swamped by unwanted foreign programs by decoding only the wanted transmissions.

On the other hand, the U.S. position on the "free flow" of communications would not necessarily be altered. The U.S. communications companies would be free to transmit whatever they wanted, upon payment of a fee for the use of the satellite signal and the programs. As these would be encoded, their reception would be possible only by willing viewers, intended audiences, those who have obtained the necessary decoders.

With the growth of television broadcasting by satellite, signal piracy and its related problems will become even more pressing issues. A prompt solution—the encryption of programs coupled with a global blanket licensing system—will do much to stem the piracy of signals, to compensate the owners of copyrighted television materials as well as slow down the trend toward

a global cultural homogenization based on American values as seen on television or film.

Communications—the sharing of information, knowledge, and culture—is fundamental to mankind; it is the distinguishing feature which has allowed mankind's development.[91] The contributions of authors, creators of literary, artistic, and other cultural works that enhance the quality of our lives, must continue to be acknowledged. The authors or creators of our cultural heritage are entitled to the fruits of their works and should receive compensation for their creations, whether they are communicated to society by way of the printed media or transmitted by satellite signals.

NOTES

1. Several books and reports attest to the need to close the "technological gap" between the developed and the industrializing countries, by placing greater emphasis on the development of their telecommunications infrastructure. In this respect, see: Maitland Commission Report, "The Missing Link: Report of the Independent Commission for Worldwide Telecommunication Development," Geneva, December 1984; Report of the Independent Commission on International Development Issues, *North-South: A Programme for Survival* (Cambridge, Mass.: MIT Press, 1982); MacBride Commission Report, *Many Voices, One World: Report by the International Commission for the Study of Communication Problems* (London: Kegan Paul; New York: UNIPUB; Paris: UNESCO, 1980).

2. See *Broadcasting*, April 9, 1984. There are presently more than thirty communications satellites in use by the United States alone, each with approximately twenty-four transponders used for entertainment purposes.

3. A. Clarke, "Extra-Terrestrial Relays: Can Rocket Stations Give World-Wide Coverage?" *Wireless World*, October 1945, pp. 305–308.

4. W. von Braun and F. Ordway, *History of Rocketry and Space Travel* (New York: Crowell, 1975), pp. 201–214.

5. *Broadcasting*, April 19, 1984, pp. 43 ff.

6. The Radio Regulations of the International Telecommunication Union define these different services: (1) Fixed Satellite Service (FSS): a radio communication service between earth stations at specified fixed points when one or more satellites are used; in some cases this service includes satellite to satellite links, which may also be effected in the *intersatellite service;* the fixed satellite service may also include *feeder links* for other space radio communication services (Section III, 3.3). (2) Broadcast Satellite Service (BSS): a radio communication service in which signals transmitted or retransmitted by space stations

are intended for direct reception by the general public (Section III, 3.18). (3) The ITU further defines individual reception (in the broadcasting satellite service): reception of emissions for a space station in the broadcasting satellite service by simple domestic installations and in particular those possessing small antennae (paragraph 5.14). (4) Community reception (in the broadcasting satellite service): The reception of emissions for a space station in the broadcast satellite service by receiving equipment, which in some cases may be complex and have antennas larger than those used for *individual* reception, and intended for use: by a group of the general public at one location; or through a distribution system covering a limited area (paragraph 5.15; emphasis in original).

7. D. Cannon and G. Luecke, *Understanding Communications Systems* (Fort Worth: Texas Instruments, 1980), ch. 10.

8. Direct Broadcast Satellite systems (DBS) in the United States are still in their infancy, although the FCC authorized several companies a few years ago to build satellites powerful enough to beam television images directly to homes. In November 1983, United Satellite Communications, Inc. (USCI) began transmitting direct broadcasts to subscribers in central Indiana. See *Broadcasting*, April 2, 1984, but this company is "foundering for lack of sufficient capital." See *Broadcasting*, December 12, 1984, pp. 46–54, which states that DBS is a "medium collapsing under its own weight."

9. P. D. Nesgos, "Canadian Copyright Law and Satellite Transmissions," *Osgoode Hall Law Journal* (1982), 20(2):232–249.

10. H. Schiller, "The Free Flow of Information—For Whom?" in G. Gerbner, ed., *Mass Media Policies in Changing Cultures* (New York: Wiley, 1977), pp. 105–115.

11. T. Varis, "The International Flow of Television Programs," *Journal of Communication* (1984), 34(1):143–152, gives the results of a major study regarding the flow of television programs. The United States provides over three-fourths of all television fare for Latin America, whereas in other regions of the world it accounted for 30 to 50 percent of imported programs.

12. M. Masmoudi, Tunisian ambassador to UNESCO, is credited with coining the phrase "New World Information Order." See MacBride Commission Report, *Many Voices, One World*.

13. Schiller, "Free Flow of Information," p. 112.

14. See, for example, T. M. Denton, "Canadian Responses to American DBS Services: Protecting the Infant Industry," paper delivered at the 11th Annual Telecommunications Policy Research Conference, Annapolis, Md., April 24–27, 1983.

15. The ITU's 1985 World Administrative Radio Conference (WARC-ORB) is charged with the task of "guarantee[ing] in practice for all countries equitable access to the geostationary-satellite orbit and the frequency bands allocated to space services" (Resolution 3 of the 1979 WARC), while "taking into account the special needs of the developing countries and the geographic situation of particular countries." Article 33, ITU Convention, 1982.

16. Varis, "International Flow of Television Programs."

17. UNGA Resolution: resolution adopted by the U.N. General Assembly on the Report of the Special Political Committee (A/37/646), 100th Plenary Meeting, December 10, 1982. The "Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting" call for the prior consent of the government of the receiving country. See *Annals of Air and Space Law* (1983), 8:533–538, for full text of the resolution and of the principles. See *Broadcasting*, November 29, 1982, pp. 30, 31, for one view of the effect of the adoption of these principles. For other views on DBS and prior consent, see "International Broadcast Regulation: The North-South De-

bate," *American Society of International Law* (April 1980), 74:298–321; *Syracuse Journal of Interntional Law and Commerce* (Summer 1981), 8:2.

18. Regarding the effects of advertising on the development of the broadcasting media in Latin America, see F. Fejes, "The Growth of Multinational Advertising Agencies in Latin America," *Journal of Communication* (1980), 30(4):36–48.

19. A. Vargas, "A Challenge for the Third World," *Intermedia* (July/September 1982), 10(4/5):29. See "Canadian Responses"; Denton; Maitland Commission Report; MacBride Commission Report.

20. Parabolic dishes range in price from $400 for a device that lets the owner rotate the dish by remote control, to $5,000 for a 12-foot dish. *Business Week*, April 30, 1984, p. 129. For a "global" survey on home video equipment, see *Intermedia* (July/September 1983), 11(4/5):40–64.

21. MPAA (Motion Picture Association of America) Report, "Unauthorized Interception and Transmission of U.S. Domestic Satellite Signals in the Caribbean," Conference on New Developments in International Telecommunications Policy, co-sponsored by the Federal Communications Bar Association and the International Law Institute of Georgetown University, Washington, D.C., May 12–13, 1983.

22. *Ibid.*, p. 247.

23. See MacBride Commission Report and *North-South: A Programme for Survival.*

24. For example, a few years ago the French government undertook to purge from the French language "Anglicisms" that were creeping in, such as "le week-end" (to revert back to "La fin de semaine"), while also eliminating "le businessman," etc. The campaign's success was/is dubious.

25. Varis, "International Flow of Television Programs," p. 152.

26. UNGA Resolution. See n. 17 above.

27. Section H(11) of the Principles Governing DBS; see n. 17 above on copyright and neighbouring rights. Neighbouring rights are those that originally were in the "neighbourhood" of copyright, and related to performances, phonograms, and broadcasting rights of authors. See Rome Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations (1961).

28. M. Rothblatt, "ITU Regulation of Satellite Communication," *Stanford Journal of International Law* (Spring 1982), 18:1–25, at 9.

29. *Ibid.*, p. 13.

30. E. D. DuCharme, M. J. R. Irwin, and R. Zeitoun, "Direct Broadcasting by Satellite: Development of the International Technical and Administrative Regulatory Regime," *Annals of Air and Space Law* (1984), 9:267–288.

31. C. Christol, "The International Telecommunication Union and the International Law of Outer Space," *Proceedings of the Colloquia of the International Institute of Space Law* (1979), 79:39.

32. G. Codding and A. Rutkowski, *The International Telecommunication Union in a Changing World* (Dedham, Mass.: Artech House, 1982).

33. F. Loriot, "Propriété intellectuelle et droit spatial," *Annals of Air and Space Law* (1978), 3:455–462, at 462.

34. J. Lukanik, "Direct Broadcast Satellites," *California Western International Law Journal* (1982), 12:204–230, at 213.

35. INTELSAT, Agreements Between the United States and Other Governments and Operating Agreement. U.S. TIAS 7532, Washington, D.C., August 20, 1971 (entered into force February 12, 1973). Cited as INTELSAT Agreement hereinafter. Preamble. See

N. M. Matte, *Aerospace Law: Telecommunications Satellites* (Toronto: Butterworth, 1982), p. 249 ff., for extracts of the Agreements.

36. INTELSAT Agreement, Article 3.

37. INTELSAT Agreement, Article 8 (b) (v) (A).

38. S. Stewart, *International Copyright and Neighbouring Rights* (London: Butterworths, 1983), ch. 2.

39. WIPO (World Intellectual Property Organization), General Information, Geneva (1983), pp. 40–41.

40. Berne Convention for the Protection of Literary and Artistic Works, Art. 11 bis, s. 1 (i) and (ii), and Art. 11 bis s. II. Text may be found in Stewart, p. 643.

41. Stewart, *International Copyright*, pp. 94, 95.

42. Universal Copyright Convention as revised in Paris, 1971, Article 4 bis, ss. 1 and 2. Text may be found in Stewart, p. 667.

43. See generally, Stewart, *International Copyright*, pp. 71–76.

44. Lukanik, "Direct Broadcast Satellites," pp. 217–218.

45. Rome Convention, 1961, Art. 13 (a), (b), (c), and (d). For complete text of this convention, see Stewart, p. 679.

46. Loriot, "Propriété intellectuelle et droit spatial," pp. 456–457.

47. Nesgos, "Canadian Copyright Law," p. 237.

48. N. M. Matte, *Aerospace Law*, pp. 202–203, and 200.

49. Stewart, *International Copyright*, pp. 229 and 301.

50. *Ibid.*, pp. 300–301.

51. Report of the Committee of Governmental Experts, Nairobi, 1973, annex I, vol. 53, Internationale Gesellschaft für Urheberrecht E. V., Vienna (1975), p. 193.

52. Brussels Convention Relating to the Distribution of Programme-Carrying Signals Transmitted by Satellite (1974), Article 1(i) and (ii). For text of this convention see Stewart, p. 691.

53. Stewart, *International Copyright*, pp. 252–256.

54. Nesgos, "Canadian Copyright Law," p. 239.

55. *Ibid.*, p. 240; see Stewart, pp. 250–253.

56. Report of the Committee of Governmental Experts, p. 193.

57. Brussels Satellite Convention, Article 4.

58. Berne Convention, Appendix I, Articles 1–4. Universal Copyright Convention, Article 5 ter et seq.

59. Matte, *Aerospace Law*, p. 202.

60. Stewart, *International Copyright*, p. 257.

61. The Brussels Satellite Convention has been ratified by Austria, Federal Republic of Germany, Italy, Kenya, Mexico, Nicaragua, Yugoslavia. WIPO (World Intellectual Property Organization), p. 48. The U.S.A. also ratified it and it came into force on March 7, 1985. Treaty Document 98-3. Information by Department of State Treaty Office.

62. *Broadcasting*, October 8, 1984, p. 81.

63. Stewart, *International Copyright*, pp. 71–76.

64. Public Law 98-67, August 5, 1983, 97 Stat. 384, Caribbean Basin Economic Recovery Act, Section 212 (b) (5) and Section 212 (c) (10), emphasis added.

65. Institute of Caribbean Studies, University of Puerto Rico, *Caribbean Monthly Bulletin*, (November–December 1983), 17(11–12):57.

66. In another instance of poaching satellite signals in Aruba, Netherland Antilles, the High Court of Judicature of the Netherlands held that the 1928 Aruba law regarding radio communication did not prohibit the interception of broadcasts, and there-

fore there was no misuse of satellite "transmissions." February 22, 1985, First Chamber, Petition #6661. The decision of the lower court is reported in *Annals of Air and Space Law* (1984), 9:534–542.

67. MPAA Report, "Unauthorized Interception . . . in the Caribbean," p. 245–249.

68. *United Nations Yearbook* (New York: United Nations Publications).

69. *Broadcasting*, October 8, 1984, pp. 81 and 82.

70. See Varis, "International Flow of Television Programs," pp. 147, 149. "Offered as an example of 'cultural restrictions as a trade barrier' was Canada, which imposes import quotas on programming, which the CBS report alleges has the effect of protecting the Canadian government-subsidized film and television production industry." *Broadcasting*, October 8, 1984, p. 82.

Another report indicates that in Canada, publicly owned networks tend to show more Canadian programming than privately owned ones, but that the United States accounts for the vast majority of imported programming except in the case of the educational network Radio Quebec. This same report states that the United States imports less than 2 percent of its programs. The imports are mostly from the United Kingdom and shown on public television. The other imported programs came from Mexico and Latin America. See Varis, p. 147.

71. *Transborder Satellite Video Services*, 88 F.C.C. 2d, 261–289 (1981) at 268.

72. COMSAT (Communications Satellite Corporation) was created by an Act of Congress in 1962, and it represents the United States in INTELSAT. Article 14 (d) of the INTELSAT Agreements requires consultation with INTELSAT if a party intends to establish or utilize a space segment separate from INTELSAT's to meet its *international public telecommunications* services requirements, to ensure that the proposed system will not cause *significant economic harm* to INTELSAT's global system [emphasis added].

73. 88 F.C.C. 2d at 271.

74. If the FCC's decision regarding transborder services as being merely incidental to domestic operations is upheld, it is plausible that the commission's decision will be to apply wholly domestic legislation to all "transborder" services. Thus, s. 705 of the 1934 Federal Communications Act (as amended in 1984), which prohibits the unauthorized publication or use of communications, might be applied extraterritorially by the FCC or an American court. This section has been interpreted as prohibiting the reception and use of satellite broadcasts by a person unauthorized by the sender to receive the communication. If the unintended recipient happens to be outside the United States, but receiving a "transborder" signal, the FCC just might decide that the pirating would fall under the activity prohibited by s. 705, and within the jurisdiction of the American legal system. The arm of the law can be very long, indeed.

75. 88 F.C.C. 2d, Appendix 1, p. 288.

76. INTELSAT has consented to the provision of transborder services, but only to Canada and Bermuda. *COMSAT* (1984), no. 13. Services to other countries are presumably still under INTELSAT's consideration.

77. *Broadcasting*, September 9, 1983, p. 76.

78. In this respect, it is suggested that the Varis article, "Interntional Flow of Television Programs," be read in conjunction with the comments regarding the CBS report in *Broadcasting*, October 8, 1984, p. 82.

79. One exception may be the U.S. 1976 Copyright Act, 17 U.S.C. ss. 101 et seq.

80. Stewart, *International Copyright*, pp. 47, 130.

81. But see *Broadcasting* magazine's article entitled "Copyright Infringement Tops List of International Problems," October 8, 1984, p. 82.

82. Public Law 98-67, August 5, 1983, 97 Stat. 384, Caribbean Basic Economic Recovery Act.

83. Lukanik, "Direct Broadcast Satellites," p. 223.

84. Stewart, *International Copyright,* pp. 112–113.

85. In France, for example, a tax on the importation and sale of reprographic machines was imposed, with part of the tax being paid to copyright owners of the material copies. In Germany, books in public libraries are subject to a lending fee, to compensate their authors. In addition, other European countries have imposed a levy or tax on the purchase of videocassette recorders, with part of the proceeds going to copyright owners whose works are being recorded at home. This scheme obviates the problem which American copyright owners face in trying to get compensation for the home use/recording of their works. See *Sony Corp. of America v. Universal City Studios, Inc.*, No. 81-1687, 52 USLW 4090 (U.S. January 17, 1984), where the Supreme Court held tht video taping an entire film or television program for "time-shifting" purposes was fair use of copyrighted material, and not an infringement of the copyright. Regarding the European schemes, see Stewart, *International Copyright,* pp. 42 ff.

86. Lukanik, "Direct Broadcast Satellites," pp. 224–225.

87. Information supplied by Gary Schober, WCI Labs, Inc., New York, N.Y., 1984. The Americans are not the only ones concerned with signal interception. It is reported that Arabsat's satellites "will be equipped with on-board decrypters to process the encoded command/control signals sent by ground control stations." *Aviation Week and Space Technology,* May 21, 1984, p. 176.

88. *Broadcasting,* October 10, 1983, pp. 8–9.

89. *Broadcasting,* November 7, 1983, p. 7.

90. *Broadcasting,* October 10, 1983, pp. 8–9.

91. MacBride Commission Report, pp. 3–10.