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ABSTRACT

Implications of the 1976 General Revision of the Copyright Act for the retransmission of television programs by cable systems are investigated. Discussion of the history and shortcomings of the compulsory licensing provisions for distant signal importation includes a description of the cable provisions of the bill, along with the judicial, regulatory, and legislative backgrounds of the cable copyright issue; shows why compulsory licensing is an economically inefficient substitute for full liability; and examines the policy choice between adopting compulsory licensing and full liability as a solution to the copyright issue. The probable financial implications of distant signal importations under the General Revision for the cable and television markets are also examined, as well as regulatory responses to mitigate the impact of the General Revision on the supply of programming. (Author/SAO)

COPYRIGHT LIABILITY FOR CABLE TELEVISION: IS COMPULSORY LICENSING THE SOLUTION?

PREPARED UNDER A GRANT FROM THE JOHN AND MARY R. MARKLE FOUNDATION

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PREFACE

This report is one of several studies supported by a grant from the John and Mary R. Markle Foundation to Rand's Communications Policy Program. The work in this program has included economic, social, and legal analysis in such areas as competition and pricing in the telephone industry, the development of cable television and its impact on broadcasting, and problems of media cross-ownership.

The issue of copyright liability for signals displayed by cable systems has commanded widespread industrial, judicial, and congressional concern for more than a decade. Recently, the President signed the General Revision of the Copyright Law, which embraced compulsory licensing as a resolution of this issue; cable systems will be able to carry distant signals authorized by the Federal Communications Commission upon payment of a specified percentage of their revenues, without negotiating with program suppliers for the retransmitted signals. This report analyzes the historical background of the controversy and the economic issues involved; it concludes that future difficulties with the adoption of compulsory licensing will arise as the cable industry grows.

SUMMARY

The copyright laws provide financial protection to authors of original works by granting them control over the use of their products. In the absence of such control, plagiarism and unauthorized copying would significantly diminish the rewards accruing to innovative activity.

For almost seventy years, protection to authors was provided by the Copyright Act of 1909. With time, the parts of the Act that failed to deal directly with changes in the methods of distributing copyrighted materials became obsolete. Cable television, with its ability to carry television signals from distant markets and redisplay them to its subscribers, was one such development that could not have been anticipated in 1909. In 1974 the Supreme Court ruled that cable systems were not engaged in a "performance" when they retransmitted distant signals and thus were not liable for copyright infringement.

The General Revision of the Copyright Act, which took effect in 1976, provides a compulsory license that permits cable systems to carry those signals currently authorized for retransmission by the Federal Communications Commission (FCC) upon payment of a specified percentage of revenues (except for smaller cable systems, this payment is based on the number of distant signals carried). The fees collected in this manner are to be distributed among the owners of copyrighted programs carried by cable systems.

The congressional review of the 1909 Copyright Act provided an unusual opportunity to reorder the structure of the cable and broadcast television markets by removing the constraints on the cable industry and by creating a mechanism that could register more directly consumers' preferences to program suppliers. The basic thesis of this report is that the congressional choice of a compulsory license, instead of full copyright liability (i.e., requiring the users of copyrighted material to negotiate with the owner to acquire the right to use that material) for distant signals will, for several reasons, aggravate the problems associated with distant signal importation. First, a compulsory license is less efficient than full liability because the consumers' willingness to pay for programs is perceived only indirectly by program suppliers. Second, the lack of specificity in the guidelines for allocating the compulsory license fees among suppliers can only aggravate their revenue problems as they argue over the division of these fees. Finally, whereas full liability would have provided a more enduring resolution of the copyright liability for cable, the General Revision provides only a temporary solution, for as cable systems become more widespread, their importation of distant signals will erode both the revenue base of independent stations and the syndication fees paid by independents for non-network programs.

We expect renewed controversy over both distant signal importation and copyright liability for cable, despite the fact that the General Revision is supposed to settle the matter. Resolution of this controversy might take the form of either a revision of the 1976 General Revision to impose full liability or further FCC restrictions on distant signal importation. Since FCC regulation appears the more likely outcome, the ultimate effect of the General Revision may be to increase the amount of regulation that restricts consumers' ability to view programs of their choice.

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I. INTRODUCTION

One of the purposes of law is to promote an efficient allocation of resources. The goal of the copyright laws, in particular, is to provide a financial incentive to authors to produce original works by granting them control over the use of their products. In the absence of such control, plagiarism and unauthorized copying would diminish the rewards to innovative activity to the point where many potentially valuable works might not be produced.

For almost seventy years, protection to authors was provided by the Copyright Act of 1909.[1] With time, the parts of the Act that failed to deal directly with changes in the methods of distributing copyrighted materials became obsolete. Cable television (CATV), with its ability to import television signals from distant geographic areas and redisplay them to its subscribers, was one such development that could not have been anticipated in 1909. Initially, the courts attempted to deal with the copyright issues concerning CATV within the terms of the Copyright Act; in the two leading cases, the Supreme Court ruled that cable systems were not engaged in a "performance" when they retransmitted distant signals and thus were not liable for copyright infringement.[2]

In 1976 the General Revision of the Copyright Act[3] took place, providing a compulsory license for cable systems to carry those signals currently authorized for retransmission by the Federal Communications Commission (FCC) upon payment of a specified percentage of revenues.[4] (This percentage is, except for smaller cable systems, based on the number of distant signals carried.) The copyright fees thus collected are to be distributed among the owners of the copyrighted programs used.

The congressional review of the 1909 Act provided an unusual opportunity to reorder the structure of the cable and broadcast television markets by removing the constraints on the cable industry and by creating a mechanism that could register more directly consumers' preferences to program suppliers. The basic thesis of this report is that the choice of compulsory licensing, instead of full copyright liability, for distant signals will, for the following several reasons, aggravate the problems associated with distant signal importation.

1. Fees fixed by law need bear no relationship to prices negotiated in a free market. In particular, the fee schedule in the General Revision will provide program suppliers too little revenue.
2. The formula contained in the law is likely to prove inflexible as economic conditions change. Although the General Revision allows a royalty tribunal to reassess fees, it provides no guidance for altering the schedule.
3. The compulsory license will be less efficient in providing authors with the financial incentives to produce original work than would fees negotiated in the marketplace if cable systems were required to purchase the right to retransmit a distant signal (i.e., full liability) because the payments to suppliers will be at most indirectly related to consumer willingness to pay for the programming viewed. Under the General Revision, the division of the fees is by mutual agreement of suppliers. An efficient allocation requires that the individual supplier receive a payment that reflects the marginal value of the programming to consumers.
4. The most significant problem is the detrimental long-run impact of compulsory licensing on program suppliers. With fees too low and the stations' ability to pay for programs reduced by the diversion of audiences to distant signals, program suppliers will earn less as cable systems and distant signal importation spread. Some programs will not be produced because of inadequate compensation, even when consumers value such programs more than the costs of producing and distributing them.

The history and shortcomings of the compulsory licensing provisions for distant signal importation in the General Revision are discussed in the following three sections. Section II describes the cable provisions of the bill, along with the judicial, regulatory, and legislative backgrounds of the cable copyright issue. Section III shows why compulsory licensing is an economically inefficient substitute for full liability. Section IV examines the policy choice between adopting compulsory licensing and full liability as a solution to the copyright issue. Section V examines the probable financial implications of distant signal importations under the General Revision for the cable and television markets, and regulatory responses to mitigate the impact of the General Revision on the supply of programming.

Footnotes

[1]United States Code, Title 17.

[2]*United Artists Television, Inc.* v. *Fortnightly Corporation*, 392 U.S. 390, and *Teleprompter Corporation* v. *Columbia Broadcasting System, Inc.*, 415 U.S. 394.

[3]General Revision of the Copyright Law, Title 17 of the United States Code, hereafter cited as General Revision.

II. THE NEW ACT AND ITS LEGAL BACKGROUND

THE 1976 GENERAL REVISION

The General Revision of the Copyright Law grants cable systems a compulsory license to carry distant as well as local signals "where the carriage of the signals. . .is permissible under the rules, regulations, or authorizations of the Federal Communications Commission."[1] That is, by paying a fee a cable system can obtain the right to carry into a market any distant signal permitted by the FCC, even if there is a station in that market that has contracted to carry the programs exhibited on the distant signals. While FCC "nonduplication" rules continue to apply, neither the local station, nor the distant station, nor the programs' owners can preclude the cable system from importing the distant signal.[2]

The compulsory license fee schedule is specified in the law. As Table 1 indicates, small cable systems will pay a given percentage of their revenues, independent of the number of distant signals imported. Larger systems, with receipts in excess of $160,000 per half-year, pay a percentage of their revenues for *each* signal imported, with the percentage declining as the number of imported signals increases.

The law provides for the Register of Copyrights to distribute the license fees collected by this formula among copyright owners. If there is no controversy surrounding the distribution, all fees will be paid at once.[3] However, if a controversy exists, a Copyright Royalty Tribunal will adjudicate the dispute and make a final disposition of the fees collected.[4] The Tribunal is also charged with modifying the fee schedule to reflect inflation or changes in the FCC rules on distant signal importation.[5] The General Revision provides no guidelines to the Tribunal for allocating fees or for revising fee schedules other than that the Tribunal should behave in a "reasonable" manner.

The background against which the debate over revising the Copyright Act took place is a mosaic of court decisions interpreting the Act, administrative rulemaking by the FCC, and legislative attempts

Table 1

SEMIANNUAL COMPULSORY LICENSE FEES FOR CABLE IMPORTATION OF DISTANT SIGNALS

System Size, GR[a]	Basic Charge If One[b] Distant Signal Imported	Charge for Additional Signals
Less than[a] $80,000	$15 or 0.005(2 GR - $80,000), whichever is greater	n.a.
$80,000 to $160,000	$400 + 0.01(GR - $80,000)	n.a.
Greater than $160,000	0.00675 GR	0.00425 × GR per signal for signals 2, 3, 4. 0.002 × GR per signal for signals 5 and beyond

SOURCE: General Revision of the Copyright Law, Title 17 of the United States Code (1976).

[a]GR = semiannual gross receipts from subscribers for basic cable service.

[b]Or any fraction of one equivalent station. An independent station counts as one equivalent station, if shown full time, and a network station counts as one-fourth of an equivalent station. See the General Revision 17 United States Code 111.f. At this writing, it is unclear whether all cable systems, or only those that carry distant imported signals, must pay the basic charge. The Royalty Tribunal will have to address this issue when it convenes.

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to find workable alternatives to encompass the technological opportunities created by CATV. The legal and administrative context in which CATV operates has evolved as its technology improved and its markets expanded. For expository convenience we have separated this background discussion into its judicial, administrative, and legislative facets; however, during the history of CATV, developments in each sector have been closely interlinked, and we will indicate these cross-connections below.

COURT DECISIONS

During the history of CATV the federal courts have dealt with two major cases related to the liability of CATV systems to compensate copyright holders for programs carried to the CATV system subscribers. In each case, the Supreme Court ultimately ruled that CATV systems that engage in the retransmission of programs originally shown by broadcasters are not liable for copyright payments to the suppliers of these programs. In the first case, *United Artists Television, Inc.* v. *Fortnightly Corporation*, the location of the defendant's cable system was relatively close to that of the originating station, but the local topography precluded the direct reception of the station's programs by some viewers. By means of antennae on nearby hills, the cable system could provide its subscribers programs that they would otherwise have been unable to receive. Since television, let alone CATV, had not been envisioned in the Copyright Act, the courts were without direct guidance in determining whether Fortnightly incurred any liability in engaging in these activities. The courts might have interpreted the Act in terms of its objectives of providing a financial incentive to authors to produce original works by granting them control over the use of their products. Instead, while the courts were not always in agreement with each other in either approach or conclusion, they generally avoided reaching an economic interpretation.

In 1966, the district court found that Fortnightly "created output signals which are replicas in electronic terms of the input signals. . . [which] duplicate[d] and reproduce[d]. . .the patterns. . .that originated from the broadcast antenna"[6] and was thus engaged in a "performance" within the meaning of the Copyright Act. In 1967, the Court of Appeals affirmed the district court's decision. In its opinion, the court was less concerned with the question of electronic duplication than with "how much did [Fortnightly] do to bring about the viewing and hearing of a copyrighted work?"[7] In effect, the Court decided that Fortnightly had done enough to incur full copyright liability. But in 1968, the Supreme Court, in reversing this decision, divided participants in the television industry into broadcasters, who actively perform, and viewers, who are passive beneficiaries, and held that cable "falls on the viewer's side of the line."[8] It based this conclusion on the fact that "broadcasters select the programs to be viewed; CATV systems simply carry, without editing, whatever programs they receive."[9]

Since Fortnightly effected the retransmission of programs from a nearby station through nothing more sophisticated than an antenna erected at a strategic location, there was some doubt as to whether cable systems which used microwave relays to carry signals for hundreds of miles were similarly exempt from liability. This question was resolved in the second major case to reach the courts, *Columbia Broadcasting System* v. *Teleprompter*. In 1972, the district court, relying on the Supreme Court's ruling in *Fortnightly*, held that no copyright infringement had occurred although Teleprompter imported signals over great distances.[10] Since the Supreme Court had previously held that all a cable system did was to provide "a well-located antenna with an efficient connection to the viewer's television set,"[11] it would seem that Teleprompter differed from Fortnightly only in having chosen an even better location for its antenna.

But the next year the Court of Appeals reversed this finding and said that the distance of the cable system from the originating station was of critical importance.[12] Since no one could receive the distant signal in the Teleprompter cable system's market, no matter how efficient or well placed his antenna, the court found that something more than the "passive" activity of Fortnightly was involved.

In 1974, the Supreme Court reversed[13] the Appeals Court decision on essentially the same grounds as it employed in *Fortnightly*. Using its "functional" analysis, the Court held that "by importing signals that could not normally be received with current technology in the community it serves, a CATV system does not, for copyright purposes, alter the function it performs for its subscribers. . .The reception and rechanneling of these signals. . .is essentially a viewer function, irrespective of the distance between the broadcasting station and the ultimate viewer."[14]

In *Teleprompter*, the Supreme Court also presented an economic analysis of the effect of its ruling. The court argued that "holders of copyrights for television programs or their licenses are not paid directly by those who ultimately enjoy the publication of the material—that is, the television viewers—but by advertisers" and that by

> extending the range of viewability of a broadcast program, CATV systems do not interfere in any traditional sense with the copyright holders' means of extracting recompense for their creativity or labor. . . .From the point of view of copyright holders, such market changes will mean that the compensation a broadcaster will be willing to pay for the use of copyrighted material will be calculated on the basis of the size of the direct broadcast market augmented by the size of the CATV market.[15]

The Court noted

> It is contended that copyright holders will necessarily suffer a net loss from the dissemination of their copyrighted material if license-free use of "distant signal" importation is permitted

but that

> such a showing would be of very little relevance to the copyright question. . . .At issue. . .is the limited questions of whether CATV transmission of "distant" signals constitutes a "performance" under the Copyright Act. While securing compensation to the holders of copyrights was an essential purpose of the Act, freezing economic arrangements for doing so was not.

The Court went on to argue that

> a determination of the best alternative structure for providing compensation to copyright holders, or a prediction of the possible evolution in the relationship between advertising markets and the television medium is beyond the competence of this Court.[16]

In its opinion the Supreme Court placed the narrowest possible construction on the issue of liability. By confining its attention to the ambiguous term "performance," it avoided the question of how its decision would affect the allocation of resources within the television industry.[17]

ADMINISTRATIVE RULEMAKING

From 1964 to 1974, when the courts were struggling with the *Fortnightly* and *Teleprompter* cases, the FCC steadily increased its regulatory control over the growing CATV industry. In its *Second Report and Order*, issued in 1966,[18] the Commission significantly restricted the ability of cable systems to import signals into the core cities of the nation's major television markets[19] by requiring proof that the public interest would be served by such importation. At the time this order was issued, the Supreme Court had not yet ruled in *Fortnightly*, and the Commission's approach may well have been a holding action in anticipation of a Court ruling imposing copyright liability on cable systems.[20]

In 1972, the Commission issued somewhat less restrictive rules that permitted the importation of two signals into most major markets.[21] The combined effect of these rules and the *Teleprompter* decision was to place distant signals into two categories: those which could be imported with no copyright liability (i.e., at a copyright price of zero to the cable system) and those that could not be imported at all.

LEGISLATIVE REVIEW OF THE 1909 COPYRIGHT ACT

Almost two decades ago Congress began considering modifications to the 1909 Act to bring it into greater conformity with the new technologies of cable television, xerography, and computer-aided information retrieval. During this period copyright policy with respect to CATV became a focal point in the deliberations over copyright revision. The first phase of congressional consideration of revision of the Copyright Act as it applied to CATV took place during 1964 and 1966.[22]

The various bills proposed during that period would have held CATV fully liable for carrying any broadcast signal. It was generally believed that cable systems were liable for signal retransmission under the existing copyright law.[23] Nevertheless, it was felt that the revised law should deal explicitly with the question. Section 5 of H.R. 11947 and its successor, H.R. 4347 (also Senate Bill S. 3008 and its successor, 1006), the first bills introduced to revise the Copyright Act, held that "the owner of copyright. . .has the exclusive rights. . . to communicate a performance or exhibition of the work to the public by means of any device or process."[24] Early discussions assumed that cable systems should be liable and concentrated on whether exemptions that were proposed for master antennas and for television sets in hotels and restaurants could be drawn so that they would not also apply to CATV.[25]

The second phase of the legislative treatment of CATV started with an amendment to H.R. 4347 which was proposed by Subcommittee No. 3 of the House Committee on the Judiciary in 1966.[26] Carriage of television signals by cable systems was placed into three distinct classes with differing copyright treatment for each, as follows:

1. No copyright liability would be imposed where "the secondary transmission is made for reception solely within the limits of the area normally encompassed by the primary transmission."[27] In other words, cable systems could carry local signals without incurring liability. This is consistent both with what broadcasters had called cable's "traditional" role and with the requirement imposed in the *Second Report and Order* that cable carry all local signals.
2. Full copyright liability would be imposed if "the secondary transmission is made for reception. . .outside the limits

of the area normally encompassed by the primary transmission, and. . .the secondary transmission is made for reception within the limits of an area normally encompassed by one or more transmitting facilities. . .if within that area no such facility is authorized to transmit the same. . . work."[28]

3. And finally, where cable carries a signal

> outside the limits of the area normally encompassed by the primary transmission. . .and the secondary transmission is made within the limits of an area normally encompassed by a transmitting facility. . .if such facility is authorized to transmit the same. . .work. . .or the secondary transmission is made for reception. . .within the limits of an area not normally encompassed by a transmitting facility. . .[29]

the copyright owner would be limited to the recovery of "a reasonable license fee." By paying such a fee, a cable system would be able to carry a distant signal into a market in which a station already had the rights to some of the programs or into an area with no television station.

The proposed amendment is noteworthy because it involved the first retreat from the principle of full copyright liability for cable retransmission. While the exemption for local signals was innocuous,[30] the requirement that the copyright owner accept a reasonable fee is the first instance in which Congress considered that the principle of full freedom of contract be limited. The Supreme Court's decision in *Fortnightly* that cable systems were not liable for copyright may have led to the abandonment by Congress of the principle of full liability for CATV.

The third phase of the revision of the Copyright Act, as it pertains to CATV, began in 1971 with the introduction of Senate bill S. 644. Unlike earlier copyright revision bills which had recognized that—at least in some situations--CATV should be subjected to full copyright liability, S. 644 introduced the idea that CATV carriage of television signals should be subject to compulsory licensing. A secondary transmission (i.e., the retransmission of a station's signal) would be subject to compulsory licensing

> [w]here the reference point of the cable system is within the local service area of the primary transmitter; or [w]here the reference point of the cable system is outside any United States television market. . .[or] [w]here. . . the signal of the primary transmitter when added to the signals of those broadcast stations whose local service areas are within that market, and of any other television broadcast stations whose signals are being used. . .by the cable system. . .does not exceed the number of signals of stations, . .as comprising adequate television service for that market; and is the signal of a television broadcast station of the type whose lack deprives the market of adequate services. . .and is closer to the market than the signal of any other station of the same type.[31]

The provisions of S. 644 applied separate standards to the top 50 markets and to all smaller ones. In the larger markets, adequate television service would consist of the reception of the three networks, three independent stations, and one noncommercial station. In markets below 50, adequate service would be three network signals, two independents, and one noncommercial station. However, in the top 50 markets, carriage by a cable system would represent an act of copyright infringement if a local station had the exclusive rights to the program carried. In other markets, this exclusivity protection would also apply but only if the program had never been transmitted to the public.

The compulsory license fee schedule was specified in the bill. A cable system would pay a graduated percentage of its gross receipts from subscribers ranging from 1 percent of the receipts under $40,000 to 5 percent of receipts in excess of $160,000. If the FCC increased the number of signals which comprise "adequate service," the fee would rise by 1 percent of semiannual gross receipts for each signal added.

Finally, the bill provided for the Register of Copyrights to distribute the license fees among copyright owners. All fees would be paid at once unless a controversy existed, in which case a Copyright Royalty Tribunal would adjudicate the dispute and make a final disposition of the fees collected.

Senate bill S. 644 set the tone for all subsequent copyright bills which differed from it in only two respects. First, rather than specifying the number and type of signals subject to compulsory licensing, the later proposals left the definition of those signals to the FCC. Second, in successive proposals the schedule of fees was gradually reduced in an effort to reach a compromise acceptable to program suppliers and cable system operators.

Footnotes

[1] General Revision, Section 111.c.1.

[2] Nonduplication rules preclude the cable system from carrying a program that is being shown simultaneously by a local station.

[3] General Revision, Section 111.d.

[4] Ibid., Section 804.

[5] Ibid., Section 801.b.2.

[6] 255 F. Supp. at 192.

[7] 377 F. 2d at 877.

[8] 393 U.S. at 399.

[9] 392 U.S. at 400.

[10] 355 F. Supp. at 618.

[11] 392 U.S. at 399.

[12] 476 F. 2d at 338.

[13] 415 U.S. at 394.

[14] 415 U.S. at 408.

[15] 415 U.S. at 411-413.

[16] 415 U.S. at 413-414.

[17] This may be an important counterexample to a basic theme of R. Posner, *Economic Analysis of the Law*, Boston: Little, Brown, 1972, that many legal decisions can best be understood as attempts by the courts to promote economic efficiency.

[18] For an analysis see E. Greenberg, "Wire Television and the FCC's Second Report and Order on CATV Systems," *Journal of Law and Economics*, October 1967.

Footnotes (Contd.)

[19]The core city is the one from which the market draws its name.

[20]Personal correspondence from Henry Geller, former general counsel of the FCC.

[21]For an analysis see S. M. Besen, "The Economics of the Cable Television 'Consensus'," *Journal of Law and Economics*, April 1974.

[22]U.S. House of Representatives, Committee on the Judiciary, *Copyright Law Revision*, Part 5, Revision Bill with Discussions and Comments, 89th Cong., 1st Sess., Washington, D.C., 1965.

[23]In a case decided in 1964, a broadcast station had sued a cable system for importing its signal. In dismissing the case, the court advised the station to seek redress under the terms of the Copyright Act. *Cable Vision, Inc.* v. *KUTV, Inc.*, 335 F. 2d 348.

[24]U.S. House of Representatives, op. cit., at 4-5. A preliminary draft of the copyright law revision prepared by the Register of Copyrights had been even more explicit. Sec. 13 stated, "the exclusive right to perform work publicly. . .shall. . .include the right to transmit the program by broadcasting, rebroadcasting, diffusing, rediffusing, or otherwise publicly communicating it." Ibid., Part 3, 88th Cong., 2d Sess., 1964, at 13.

[25]There were a few claims made that cable systems should not be liable, the claims coming from cable systems, but this was not a prominent view.

[26]U.S. Senate, Subcommittee on Patents, Trademarks, and Copyrights, Committee on the Judiciary, *Copyright Law Revision - CATV*, 89th Cong., 2d Sess., at 2-4.

[27]Ibid. at 3

[28]Ibid. at 3-4.

[29]Ibid. at 4.

[30]Once the program supplier sells a program to a local station, he obtains access to the entire local market either over-the-air or on the cable. FCC rules require cable stations to carry all local stations.

[31]U.S. Congress, Senate Bill S. 644.

III. THE ECONOMIC CONTEXT

Beyond the purely legal interpretations of the current Act and the evolution of rulemaking by the FCC, the copyright issue is intimately intertwined with the economics of the television, CATV, and program supply industries. To compare the effects of the General Revision with full liability, we will first review the principal economic factors that affect these industries, and then examine how the arrangement of economic transactions between program suppliers, broadcast stations, and cable systems may be fundamentally affected by the nature of the property rights established by the copyright laws. Finally, we consider how the "public good" aspects of television programs introduce additional considerations into the analysis.

ECONOMICS OF BROADCAST AND CABLE TELEVISION

The electromagnetic frequencies at which television stations operate and the maximum power that they may use are established by the FCC. Each station's operation is confined to a particular geographic area, or "market," and no station may retransmit the programming of another. To obtain programming, stations either affiliate themselves with one of the three national networks or purchase programming from independent suppliers.

Affiliates enter into contractual relationships with the networks that specify the terms on which they will be compensated for carrying any network program.[1] These affiliated stations fill a substantial portion of their broadcast day with network programming, which is provided simultaneously to all affiliates in the same time zone. The terms of the network-affiliate contract give the affiliate the right of first refusal on such programming and provide that if the affiliate carries a network program, it has exclusive use of the program in its own market. The networks, in turn, purchase the majority of their programs from independent program producers and also produce some programs themselves.

When a network obtains the rights to a program, it supplies that program to every affiliate from which it can obtain a clearance. The price that the network pays for a program depends on the number of affiliates it expects to "clear" the program and on the share of the advertising revenues it can retain for itself.

An affiliate also obtains programs from non-network sources by purchasing programs directly from program suppliers in the so-called syndication market and by producing programs itself. Syndicated programs consist predominantly of programs that have previously been shown on a national network and to a lesser extent of newly produced programs. The price that the affiliate is willing to pay for non-network programs is based on its assessment of the advertising receipts it can obtain relative to the receipts from clearing a network program during the same time period; local station revenues consist of network compensation to the affiliate as well as advertising revenues from local commercials during network shows. Since the set of independent stations that purchase syndicated programs varies according to the program in question, simultaneous broadcast of syndicated programming is rare.[3] Instead, each station obtains a filmed copy of the program and determines the time at which it will be shown as part of its overall scheduling of filmed and live programming.

It is common practice for both affiliated and independent stations to acquire the rights to a syndicated program on an exclusive basis, in which case no other station in the same market will be licensed to carry that program for a specified period--the life of the contract between the program supplier and the purchasing station.

CATV owes its existence to three services which it provides. First, it offers improved reception of local signals, an especially important factor in places such as New York City and Los Angeles where man-made or natural barriers contribute to poor quality over-the-air reception. Second, it brings to viewers programs that they would otherwise never be able to see because no local station would ever carry them. This service is especially important where there are fewer than three stations, since only over cable can viewers in these markets receive a full complement of network service. Finally, cable provides the opportunity for viewers to receive a program at a time other than when it is carried by a local station. Except for the retransmission of local signals, however, CATV's ability to provide increased services is restricted by the FCC's carriage, nonduplication, and exclusivity rules.

The present FCC rules set a limit of two on the number of distant signals that may be imported into most television markets.[4] Moreover, the nonduplication rules specify that a cable system may not carry a distant signal to its subscribers during a time at which the same program is being shown by a local station. Because almost all network affiliates carry a given program at the same time, the nonduplication rules serve chiefly to confine cable systems to show network programming by retransmitting the local network affiliate stations.[5] The effect of the nonduplication rule is to discourage a CATV system from importing signals of distant network affiliates because the costs of microwave transmission frequently outweigh the attractiveness to subscribers of the relatively small, non-network proportion of the programming that could be shown. By contrast, independent programming is only slightly affected by the nonduplication rules because it is typically shown at different times in different markets. Finally, FCC exclusivity rules provide an additional limitation on the services CATV can provide in the top 100 markets. In the top 50 markets, a cable system cannot carry a program for one year from the date it is first sold anywhere in the country and cannot carry a program at all if a local station has purchased exclusive rights to it. In the second 50 markets somewhat less restrictive prohibitions apply, which, however, limit the availability of the program to CATV until broadcast stations in the market have had an opportunity to show it.

COPYRIGHTS AND PROPERTY RIGHTS

The right to use a television program, or to prevent its use, is similar to a large number of other rights that have been established. It is reasonable to think of property rights as involving not physical possession, but rather the prerogatives and obligations pertaining to the use of a particular resource.[6] For example, although a person may possess the right to construct a house on a piece of land, the right to fly over that land or to exploit the minerals below it may well belong to someone else. Furthermore, the ownership of a parcel may not carry with it the right to use it to engage in certain activities, such as those judged to be a nuisance by the law. As another example, even though one "owns" one's body, the rights of ownership do not generally extend to allowing one to sell oneself into slavery or even into indentured servitude for a fixed term.

The value that is placed on a particular item of property is determined by the rights that accompany its ownership. An important discovery of modern welfare economics is that, under certain circumstances, the allocation of resources in the economy is unaffected by the manner in which the rights to property are distributed.[7] Provided that these rights can be rearranged costlessly, so that there are no "transaction costs," then regardless of how property rights are initially distributed, ultimately they will be possessed by the persons who value them most highly. Moreover, if rearrangements in the initial allocation of rights have no effect on behavior (i.e., that the resulting redistribution of wealth does not alter aggregate demands for the commodities in question), then the manner in which the property is used will be unaffected by the initial distribution of rights.[8]

What is the relevance of this theorem, first enunciated by Coase,[9] for CATV and copyright liability? It is this. If there are no costs of making transactions, then both the number and nature of the programs that cable systems will import will be the same whether cable systems are permitted to import distant signals without compensating program suppliers, or, instead, if program suppliers can deny cable systems the right to retransmit a program unless they pay compensation. The "only" thing that will be affected is the distribution of income between program suppliers and cable systems. However, if negotiation and transaction costs do exist, then the form of liability will affect the supply of programming.

Full Liability: Example with Two Stations and One Cable System

To illustrate the relevance and limitations of this theorem, we will develop an example in some detail. Consider a situation in which there are only two television markets, A and B, and no cable system. A television program supplier is considering whether to produce and sell a program to stations in both of these markets. Assume that if the program is shown in market A, the maximum amount that a station would be willing to pay for that program, given the alternative uses of the station's time, is 60. Similarly, assume that a station in market B values the program at 25. If the program can be produced at a cost less than 85 (60 + 25), it will be produced and shown in both markets. The gains--the difference between the combined valuations and the cost of the program--will be divided among the two stations and the supplier of the program. If, for example, the cost of the program is 82, joint profits will be 3 (85 -82).

Now suppose that a cable system is constructed in market B. If the program is not shown simultaneously in both markets--the usual case with syndicated programs--the cable system may find it desirable to "import" the program from market A. Importation will enhance the value of the program to the A station, since its advertisements are now seen by viewers who would not otherwise have watched it. Some cable subscribers in market B now view the program on the A rather than the B channel with the result that advertisers will pay less for access to station B's time. To the cable system the value of carrying the signal is equal to the revenue from the extra subscribers that this programming will attract and any higher subscriber fees it can charge, less the additional costs of importing the program.

Under certain circumstances, the total revenue generated by the program when it is carried over cable can exceed the value when it is carried only by broadcast stations.[10] This will be the case, for example, if the A station receives a large addition to its advertising revenues as a result of distant carriage, or if the loss to the B station from having its audience fragmented is small, or if cable subscribers are willing to pay a great deal for the opportunity to view the program, or if the audience increases as a consequence of better reception.

Suppose that the value of the program to the A station increases from 60 to 70, the value to the B station in market B is reduced from 25 to 10, and that cable viewers are willing to pay 10 to see the program. When the value, 10, of cable carriage in market B is included, the total value of 90 exeeds the initial amount of 85. If the program supplier can deny the cable system the right to import its program unless a payment is negotiated, the cable system will be willing to pay as much as 10 for the privilege of doing so. At the same time, the program supplier can extract an additional fee from the A station of as much as 10, since that is the increase in the value the station places on the program as a result of its cable carriage. However, the fee charged to the B station must be reduced, since that station's loss of the exclusive right to the program has reduced its value. Even when the program supplier reduces his price to the station in market B by 15, the total reduction in the value to that station, he will gain as a result of the increase in payments of 20 from the A station and the cable system combined. Consequently importation will increase the revenue of the program supplier if the cable system is subject to full copyright liability.

No Liability: Example with Two Stations and One Cable System

Suppose, instead, that the program supplier is unable to prevent the cable system from carrying his programs and that the cable system has the right to import the program without charge. In this case the A station will still be willing to increase its payment by 10 and the B station will insist on a reduction of its payment by 15, leaving the supplier with a reduction in revenues. If the reduced revenue from the stations nevertheless were to exceed the supplier's cost of producing the program, the cable system need contribute nothing to get the program shown. However, in our example, the maximum payment which can be extracted from the two broadcast stations is now only 80, less than the program cost of 82. Here, *the cable system will offer to pay* an amount sufficient to have the program shown, *even though it is not required to do so*, for if it does not volunteer such a payment, the program will not be provided and the cable system will be forced to choose its next best alternative--one that, by assumption, will result in foregone profits of 10. Thus, whether the property rights are initially possessed by the program supplier or by the cable system, the program will be provided and the cable system will carry it.

In the above example the value of the program increases as a result of cable carriage, but, of course, this need not be the case. Cable carriage can reduce the value of the program in many circumstances--when advertisers do not place a high value on the distant viewers of the station in market A, when the loss from audience fragmentation to the station in market B is large, and when the cable viewers do not place a high value on the program. Suppose, to change our example, that the value to the A station including the audience from cable carriage is 65, that the value of the program to the B station when it is carried on cable is 5, and that the value to cable remains 10. Now the total value of the program when it is carried by cable is only 80, less than the value without cable carriage and also less than the cost of producing the program.

[illegible] difficulty arises when the property rights reside with the program supplier. He will simply refuse to allow the cable system to carry the program and the cable system will be unable to bid away the local station's exclusive rights. However, if it is the cable system that possesses the rights, it will carry the program unless it is *paid* not to do so. The maximum payment that the stations and the supplier would jointly make to the cable system is equal to the profits that they would enjoy in the absence of cable carriage. In our example, this is 3 (85 - 82). While the cable system would appear to earn profits of 10 from carrying the program, if it were to insist on doing so the program would not be provided. For in this case we assume that when it is being carried over cable the two stations do not value it enough to pay its total costs of production. Once again, the example demonstrates that the allocation of rights between the supplier and the cable system does not affect whether the program is produced or whether it is carried over cable.

The Effect of Cable Carriage on Program Choice

Until now, we have assumed that cable carriage has no effect on the nature of the program shown by the distant station. However, an important consequence of cable retransmission may be to increase the total value of a new program and lead to the production of a different program than would be supplied to broadcasters alone. Regardless of whether the property rights are held by the supplier or the cable system, the program with the greatest total value net of its cost of production will be chosen.

To demonstrate this, let us continue our previous example. Suppose that there is a second, new program that is especially attractive to the cable audience; it is valued by the A station at 65, by the B station at 5, and the cable system at 25. For simplicity, we will also suppose that the cost, 82, of producing this new program is the same as that of the program previously shown. The total value of the new program, 95, exceeds the previous value of 90; the increase in total value has occurred because the value of the new program to both stations has fallen by a smaller amount, 10, than the value to the cable system, 15, has increased.

If the cable system is free to import programs without incurring copyright liability, it will nevertheless increase its voluntary contribution to the program supplier to get the new program produced. Although stations will reduce their payments, the total payments from the cable system and the stations combined will be sufficient to bring forth the new program. If, on the other hand, the cable system is liable for copyright, an increased fee can be collected from the cable system if the new program is supplied.

Although for this example we have taken the costs of producing the two programs to be equal, the proposition does not rest on this assumption. In general, the program that will be produced will be the one for which the *difference* between the total value of the program to the stations and the cable system and the cost of producing the program is greatest. In our particular example, the new program would displace the old one even if its production costs were as high as 87. We can therefore conclude that when contracting costs are unimportant, whether or not cable systems are liable for copyright will have no effect on either whether a program is imported or on the nature of the program that is produced.

PUBLIC GOOD ASPECTS OF TELEVISION PROGRAMMING

To this point, our analysis has examined the situation in which there are only two cities, each with broadcast stations, and one cable system. We have established that under these circumstances the volume and nature of programming is unaffected by the liability imposed for the retransmission of programs. In fact, however, there are many television markets, most with more than a single broadcast station, others with cable systems only, and many with both. It is the multiplicity of television markets and cable systems that requires a fundamental modification of our results.

In order to extend our analysis we will first consider the fact that television programs are a type of "public good" and thus give rise to problems not encountered in the usual economic analysis of property rights. The essential feature of a public good is that the number of users of the good can be increased at no added cost; or, to put it differently, an increase in the amount of the good consumed by one person does not reduce the amount available for consumption by all others.[11]

The supply and marketing of public goods poses an interesting dilemma. On the one hand, once some amount of the good has been produced, it is socially inefficient to exclude persons who value the good from using it, since they can be served with no increase in cost. To exclude someone would reduce his satisfaction without increasing in any way that obtained by those already consuming the good. However, unless there is a mechanism for charging each potential user a price no greater than the marginal valuation he places on the public good, the sale at any positive price will needlessly exclude some users.

On the other hand, if a price of zero is actually charged, two new problems arise. First, some other mechanism besides payments from consumers must be found to finance the costs of the good. Alternatives to direct user payments, such as taxes or higher prices for other goods, may themselves produce inefficiencies. Second, some means must be found to determine both the amount and the nature of the good to be produced. But they may only imperfectly represent the values that consumers place on additional quantities of the good.[12]

In different ways the various mechanisms employed to finance public goods attempt to balance the two fundamental considerations described above. Those mechanisms which rely on a zero price to users lean in the direction of not excluding those who can be costlessly served. Those that rely on charging positive prices strike the balance in favor of the information about consumers' preferences that is obtained through the pricing mechanism. In practice either arrangement—as compared to the efficient mechanism that charges each user a price equal to his marginal valuation of the public good[13]—will result in some unavoidable reduction in efficiency.

In many cases it may be very costly to exclude users of a public good from enjoying its benefits. In such circumstances, the good *may* nonetheless be supplied on the basis of voluntary contributions from the beneficiaries. For example, two farmers are likely to be able to agree on a method of sharing the costs of a road which serves their adjoining properties. However, when a large number of farms benefit from the road, such an outcome is unlikely; any one user obtains only a small share of the total benefits from a public good, and none has an incentive to make a voluntary contribution. The problem is that a small user who volunteers a contribution imposes a cost on himself without changing significantly the amount of the good that he obtains, since the amount of the good is almost totally dependent on the total amount that others contribute; if all users make similar calculations, no resources will be obtained to pay for the good.[14] Thus, unless nonpayers can be excluded from the benefits, each consumer has a strong incentive to take a "free ride" and it is therefore highly unlikely that a public good will be privately supplied to a large number of users. Furthermore, even where exclusion is possible, it is in the interest of each user to understate the amount he is willing to pay. This is especially but not exclusively the case where the number of users is large.

This discussion makes clear that two conditions must be satisfied if public goods are to be provided by private firms. First, it must be possible to exclude nonpayers at reasonable cost, and second, the producer of the good must have the *right* to exclude nonpayers.[15]

Footnotes

[1] For an analysis of this arrangement see S. M. Besen and R. Soligo, "The Economics of the Network-Affiliate Relationship in the Television Broadcasting Industry," *American Economic Review*, June 1973.

[2] In the exceptional cases in which a network affiliate in its market refuses to carry the network program, an independent station may do so.

[3] One exception is the carriage of live sporting events.

[4] In the top fifty markets, cable systems may import signals until they have three full network and three independent signals, including local stations. In the next fifty markets, the limits are three full network and two independent signals. In addition to these quotas, cable systems in the top one hundred markets may carry two more independent stations. See FCC Regulations §76.51, 76.61, and 76.63.

[5] Some cable systems are able to take advantage of the fact that network shows are displayed at different times in different time zones. This effect is most significant in the Rocky Mountain Time Zone.

[6] H. Demsetz, "Toward a Theory of Property Rights," *American Economic Review, Papers and Proceedings*, Vol. 57, No. 2, May 1967, pp. 347-359.

[7] R. Coase, "The Problem of Social Cost," *Journal of Law and Economics*, October 1960.

[8] Demsetz, op. cit., p. 349.

[9] Coase, op. cit.

[10] The term "value" may be somewhat misleading. Since the viewers of over-the-air stations do not pay directly for programs, the amount that stations will pay for programs reflects only their value to advertisers. This is the sense in which the term "value" is used here.

[11] Interestingly enough, in an early article in which the concept of a public good was discussed, television programs were put forth as an illustrative example. P. A. Samuelson, "Aspects of Public Expenditure Theories," *Review of Economics and Statistics*, November 1958.

[12] For a discussion of these points, see J. R. Minasian, "Television Pricing and the Theory of Public Goods," *Journal of Law and Economics*, October 1964.

[13] In order to produce an efficient level of quantity or quality of a public good, the incremental cost of an additional unit should equal the sum over all consumers of their incremental valuation of that unit of the good; see P. A. Samuelson, "The Pure Theory of Public Expenditures," *Review of Economics and Statistics*, Vol. 36, November 1954. This requires that the producers of public goods be able to discriminate among the consumers to capture the incremental value of the unit produced.

Footnotes (Contd.)

14 In most cases, even with a fairly large number of users, some of the good, but not necessarily the optimal amount, may be provided. If there is a user who obtains a large share of the benefits so that his benefits from having some of the good exceed his costs, he will provide some of it even if no one else makes a contribution. The classic example of this is the disproportionate contribution of the United States to various international agencies and defense arrangements. This has been described as the "tyranny of the weak over the strong" since small beneficiaries are successful free riders at the expense of large ones.

15 For some goods, say the provision of a fireworks display, it may literally be impossible to exclude. For others, say the provisions of scientific or literary works, it may be exceedingly costly to prevent the photocopying of the works, even if the law gave one the right to do so.

IV. THE CHOICE BETWEEN COMPULSORY LICENSING AND FULL COPYRIGHT LIABILITY

With the background of the previous discussion, we can see that the economic justification of copyright laws is to enable public goods to be supplied in a private market by establishing the rights of the producers of particular public goods to exclude nonpayers. Although this right is not absolute (for example, nonprofit performances of a copyrighted work are frequently exempted from liability), the intent of the law is to provide rights of exclusion so that the producer of a work can charge users a positive price and thus obtain compensation for his efforts.

Let us now consider the implications for copyright policy of a large number of television stations and cable systems. In an earlier example in which there was only a single cable system and two broadcast markets, we concluded that the volume of programming would be unaffected by the absence of copyright liability. When a *voluntary* payment was necessary for a program to be provided, the cable system saw it in its own interest to make such a payment, since otherwise the stations would cancel the programs and effectively exclude the nonpayer. But, in the more realistic case in which there are a large number of cable systems with access to a station's programming, no individual cable system will make a voluntary contribution, since its own payment is likely to be too small to affect the amount of programming provided. Each cable system is better off being a "free rider," making no payment and accepting whatever programming is provided as a result of the payments of others.

Consider, for example, the situation in which the value of the program is increased by cable carriage in each pair of markets, but the maximum payments that broadcast stations alone are willing to make declines. If cable systems do not contribute voluntarily toward the costs of the program, the reduced revenues from broadcast stations may be insufficient to meet these costs. Since each cable system has the incentive to take a "free ride" (make no contribution), their collective action may result in driving the program off the air.

If, on the other hand, the result of cable carriage is to reduce the total value of the program below its cost of production, the supplier can, in principle, pay each system not to carry the program. But each cable system, realizing that the payment that it is able to extract will have little effect on whether the program is withdrawn, may hold out for a larger "bribe" before it will abstain from carrying the program. If all cable systems do this, they will collectively succeed in forcing the program off the air.

The "free rider" problem occurs under a system of compulsory licensing as well as in the absence of any liability. A cable system will pay no more than the compulsory royalty fee because it realizes that incremental payment will have very little impact on the program's content. The limited impact its voluntary payment would have is due to the small size of the cable system relative to the entire market for the distant signal's programs.

Compared to a full liability system, compulsory licensing makes it more difficult for the program supplier to capture the incremental value of the program to the audience. The compulsory license fees of the 1976 General Revision are fixed percentages of subscriber revenue and for many systems are independent of the number of signals. These percentage amounts bear little obvious relationship to the increase in consumer satisfaction (net of importation costs) that results from access to new programs and more convenient times for existing programs. The fees ignore the costs of importation and retransmission. For some signals the value to subscribers will exceed the royalty fee, but because of "free rider" behavior, the difference cannot be captured by the supplier. For other signals, the increase in subscriber satisfaction will still be large enough to cover importation and retransmission cost, but not the compulsory license royalty fee. Under compulsory licensing, the system would not import the signal and not pay a royalty fee; in such a case, full liability would lead the cable system to import the signal and pay a royalty less than the compulsory license royalty fee. In such a case the General Revision does not allow cable systems, stations, and program suppliers to negotiate a mutually advantageous agreement on rates other than those in the fee schedule. Subscribers and suppliers are clearly worse off under compulsory licensing than with full liability.

When there are many different television markets and cable systems, the assignment of property rights for programming will affect the ultimate allocation of resources. In such circumstances the rights should be assigned to promote economic efficiency.[1] Full copyright liability will make it more likely that suppliers can capture the incremental value of their programs to viewers and advertisers. By contrast, the compulsory license provisions of the General Revision and the associated "free rider" problems impair the ability of suppliers to capture that incremental value.[2,3]

Some of the supporters of the compulsory license provisions of the General Revision have raised doubts about the practicality of a system of full copyright liability. They are struck by the apparent complexity of cable systems having to negotiate program by program with every supplier for each station whose signal is imported. They also point to the poor experience during the period in which the FCC experimented with a requirement that cable systems obtain retransmission consent from the imported station in order to carry a program.[4] They are thus led to compulsory license as a workable modification of the principle of full copyright liability which will reduce the costs of making transactions.[5]

For a number of reasons we feel that the full liability solution, which would have been desirable in principle, was also workable in practice. The retransmission consent experiment was not an appropriate test of full liability because of the legal inability of stations to grant consent under existing syndication contracts. In addition, since the courts had ruled that cable operators were not subject to copyright liability for distant signals, the operators may not have wanted to establish a precedent of liability for the signals they imported. If full liability for retransmission had been imposed, then contracts and institutions would have developed to facilitate negotiations. Independent stations do manage successfully to complete negotiations for programs for their whole broadcast day, often with the use of standard contracts with fees based on well known advertising rates per thousand households. Since cable systems will have to negotiate only the fees, instead of the fees and episodes negotiated by independent stations, standard contracts and prices should significantly reduce negotiation costs.[6] The use of selling and purchasing agents similar to those now employed by broadcast stations could exploit the economies of scale to further reduce negotiation costs. The emergence of multiple cable system organizations would have similar effects. We agree with a statement about the retransmission experiment attributed to Hirschliefer: "If cable were paying for retransmission, the owners of copyright would think of a way of selling the rights."[7]

Compulsory licensing like that of the General Revision has lower negotiation costs than a system based on full copyright liability. Instead of having to negotiate either with program suppliers or broadcast stations, cable systems wishing to retransmit the signal of a given station need simply pay the prescribed percentage of their revenue into the copyright pool.[8]

There are, however, four principal objections to compulsory licensing in general and with its application in the General Revision in particular. First, fees fixed by law need bear no relationship to the prices that the marketplace would produce if transactions could be negotiated costlessly. While the fees in the General Revision do vary with the receipts of the cable system, the schedule is not based on an estimate of the incremental valuation that viewers and advertisers place on imported programming. To our knowledge, no evidence has ever been presented to justify the fee schedule contained in the Revision--the only concern of legislators has been whether cable systems could "afford" the fees being charged.[9]

The following evidence suggests that the schedule will generate revenues that are too low, in that they do not reflect the marginal value of imported stations to advertisers *and* cable viewers. For a typical small system (with semiannual subscription revenues less than $160,000 or about 4400 subscribers) the license fee will amount to less than 4.5¢/month per subscriber. On larger systems, the fee will range from 4¢ per month if one equivalent signal is imported to 11.7¢ for four equivalent imported signals. In contrast, the networks, their affiliates and independent stations earned $2.78 per month per TV household in 1974.[10] Moreover, the combined value of programs to advertisers and viewers should exceed that to advertisers alone. An advertiser will pay for access to the audience on a program. Since a viewer will watch the program he prefers, advertising reflects only the viewer's choice of one program over another, not the intensity with which the viewer prefers that program over the others. For example, consumers frequently pay from $5 to $7 per month to cable systems in order to obtain or improve local reception. Using data on cable penetration, several authors have explored consumer preferences for additional channels. The formulas reported by Comanor and Mitchell (1971) suggest that consumers are willing to pay from 19¢ to 24¢ per month for an additional independent.[11] R. E. Park's (1972) penetration analysis suggests that consumers in a market with no independents would be willing to pay about $2 per month to import three independents and one educational channel and that in markets that already have on VHF and two UHF independents, subscribers are willing to pay from $1.40 to $1.70 for two additional independents and two additional educational stations. For comparable situations, Noll, Peck, and McGowan (1973) report consumer surpluses on the order of $10 per month and $2.90 per month per subscriber for the same two cases. (For many systems, these amounts are more than sufficient to pay importation costs.)[12] Thus, compulsory licensing fees appear to be well below the average subscriber's willingness to pay for additional channels and the value of access to audiences for advertisers.[13]

With the data now available it is difficult to assess the exact magnitude of the change in revenue to program suppliers under compulsory licensing. However, we can approximate the value to program suppliers of a local independent losing a viewer to a distant signal. In 1974, the advertisers paid $2.80 per month for the average TV home, and independent stations paid about 25 percent of their revenues to program suppliers. The analysis by Park et al. (1976) suggests that about half of the local independent's audience will be lost if two additional independent stations are imported. Thus in order to compensate for the loss of audience on the local independent station, program suppliers will have to find compensating revenues of about $0.35 per cable customer per month. Compulsory licensing will generate an offsetting revenue of $0.07 per month for the subscriber that is on a large cable system importing two stations and charging a subscription fee of $6 per month (see Table 1). Additional revenues will come from regional and national advertisers. However, the additional advertising revenues to the two independent stations imported are likely to be less than the local station's loss, since advertisers who valued the audience highly (the local advertisers) are being replaced by those who valued it less to begin with (the additional regional and national advertisers).

In contrast to compulsory licensing, what would be the effect of CATV on the economic return earned by program suppliers in a competitive market with full copyright liability? With respect to the market for advertising, if CATV draws its audience largely from the ranks of viewers of existing stations, as seems likely, then the total revenue from advertisers will fall. On the other hand, with respect to the market for cable viewers, the net effect must be to increase program suppliers' revenues from cable systems, since these revenues are now virtually nonexistent. Given what we know about the willingness of viewers to pay for access to additional signals, the increase is likely to be large. In any event, full copyright liability would ensure that program suppliers would earn at least what they earn now, because they would always have the option of dealing with the stations only. This is not to suggest that suppliers will obtain all of the incremental revenue net of the costs, primarily microwave, that a cable system obtains by importing additional signals. How much of the increase these obtain will depend on the elasticity of program supply. If supply is highly price-elastic (as Owen, Beebe, and Manning (1974) suggest in Chapter II), then the probable effect of imposing full liability will be to call forth additional programs. By contrast, if there is no liability and if it turns out that the effect of cable carriage is to reduce advertising revenues, the net effect will be to reduce the quantity of programs supplied. If the supply of programming is less than perfectly elastic, the imposition of copyright liability will alter both the number and the price of programs. The number of distant signals imported will ultimately be limited by a rising supply price of programming and/or a decline on the amount subscribers are willing to pay for access to additional signals. When the number of imported signals reaches an equilibrium, the marginal resources employed in program production will earn no economic rents.[14]

A second major difficulty with compulsory licensing is that the formula contained in the law is likely to prove inflexible to changing economic developments. While the General Revision does contain a mechanism for revising the fee schedule and even requires that, under certain circumstances, the schedule should be reassessed by the Royalty Tribunal for reasonableness, neither the Revision nor its accompanying legislative history provides guidance to the Royalty Tribunal as to what is "reasonable." Nor does it permit the Tribunal to change the fee schedule under important changes in circumstances, other than revisions in FCC rules, or changes in subscriber charges apart from those necessitated by general inflation. For example, a schedule that is appropriate for a nascent CATV industry may become inappropriate as cable penetration increases substantially. While the attempt on the part of CATV industry to take a "free ride" may be innocuous if there are relatively few subscribers, it is likely to become important when major cities have widespread cable service. To be sure, total copyright payments will increase with the number of subscribers, since these fees are established as a percentage of subscriber charges. But the prices that the market would produce for imported programs would be likely to increase even more rapidly than subscription fees. It will be impossible for the Tribunal to react to such a change by changing the fee schedule.

The failure of the General Revision to specify how fees are to be revised when FCC importation rules are modified promises to be a source of controversy. Even before the General Revision had been signed into law, the National Cable Television Association appeared before the

Commission to argue for a relaxation of the rules on the grounds that the passage of the Revision obviated the need for these restrictions.[15] And the Commission itself has indicated that it will reconsider its rules, giving as one reason the enactment of the General Revision.[16] But such rule changes are precisely those which, according to the new law, must trigger a reconsideration of the copyright fee schedule. Thus, in attempting to establish a definitive copyright policy for CATV, the General Revision, rather than clearing the way for programmers to receive compensation for their product, will delay those receipts as the controversy is transferred to the FCC and to the courts.

A third difficulty with compulsory licensing is that it requires a mechanism for distributing the fees collected. Under the General Revision, if copyright owners can agree on a division of cable system payments, then that division is accepted. If no such agreement emerges, the Copyright Tribunal must decide on an appropriate division. Unfortunately, here again the Revision gives the Tribunal no guidance as to how to proceed in the event of controversy. Since there are considerable changes in the mix and popularity of programs supplied from year to year, disputes are quite likely to arise.

The case against compulsory licensing was made quite forcefully in the course of early hearings on the revision of the Copyright Act. In 1966 the Register of Copyrights testified: "A compulsory license provision has to be used in a very guarded fashion, that is, only when it is absolutely necessary. . .when you try to fix a total rate for all works used, you face all the problems of distribution, which in some cases may be insurmountable."[17] Unfortunately, the basic truth of this argument was obscured as the process of revising the Copyright Act dragged on.

The fourth and most significant difficulty with the cable provisions of the new law is their detrimental impact on the program supply markets. Since the fees generated by the fee schedule are likely to fall short of the value consumers place on the imported signals, the aggregate earnings of program suppliers will be too low (although some suppliers may earn too much). At first, the gap between actual and efficient revenues will be relatively small because distant signals now offer only limited competition to local stations; only one in seven homes has a cable connection. However, as cable penetration and distant signal importation increase, the ability of program suppliers to capture the full value of their programs will decline. Since local independents and network affiliates will face increased competition from distant signals, their advertising revenues and ability to pay for non-network fare will decline.[18]

The total impact of distant signal importation will depend on cable penetration into large markets and on the FCC's decisions about exclusivity. Markets with over-the-air independents appear to be less susceptible to cable penetration than markets without them. In addition, it is in these markets that the FCC's present rules grant local stations strong exclusivity protection from competition from imported signals--in the top 50 markets, the local station can maintain its exclusive right to a program for the duration of its contract.[19] Since these markets account for the bulk of program suppliers' revenue, the continuation of the FCC's exclusivity provisions will significantly diminish the potentially adverse impact on program suppliers of the compulsory licensing provisions of the General Revision.[20]

So far we have considered only the efficiency question: do program suppliers receive adequate compensation for their products? But distant signal importation will also affect the distribution of revenues because local independents will lose audience to distant signals. To the extent that cable systems import signals from the large regional cities, independents in smaller markets will be at a disadvantage. The FCC, with its historical concern for independent stations, may find some way to mitigate the "adverse" consequences of cable expansion on local independents' revenues. Although the FCC is not a part of the mechanism for establishing copyright fees, the General Revision does recognize the FCC's ability to use rulemaking to regulate cable. In particular, the FCC could further restrict the number of distant signals imported, which would lead to consumers being denied programs when their willingness to pay exceeded the costs of providing additional channels of programming. The result would be to solve the distant signal problem by severely limiting the right of cable systems to import distant signals.

The workable alternative to this scenario would be full liability for distant signal importation and the elimination of the FCC's ability to restrict importation by cable operations. Although the case for full liability on distant signals (presented in Section II above) holds independently of FCC action, deregulation of the market for signal importation is necessary to prevent the FCC from reducing the potential gains to viewers by further restricting the ability of cable systems to import distant signals.

A third possibility would be for distant signals imported under the current FCC quota to be subject to compulsory licensing, but to waive the quota and permit unlimited importation if a cable system accepts *full liability for excess signals*--those in addition to the number now authorized by the FCC. Such a scheme would represent a decided improvement over the present compulsory licensing situation, but whether this particular degree of copyright liability could come about within the framework of the 1976 General Revision is presently unclear. From a reading of the new law, it would appear that the Tribunal is limited to assuring that the fee schedule remains reasonable in light of the FCC's importation rules.[21] Revisions in the Commission's rules to authorize cable systems to import additional distant signals, which would be necessary to make this scheme possible, would trigger a revision of the compulsory fee schedule, except when the Commission grants a waiver to an individual system. Neither body, therefore, appears to be able to impose liability for excess signals, and unless this obstacle can be overcome by interpretation of the Act, further legislative revision will be necessary to make such a scheme possible. The time required to finally pass the 1976 Act suggests that the prospects for early improvements of the compulsory licensing mechanism are not bright.

Footnotes

[1]This is the basic normative theme of Posner's *Economic Analysis of Law*, op. cit.

[2]The above argument pertains to the carriage by cable systems of *distant* signals. Under current FCC rules, cable systems are required to carry the signals of all local stations and these stations are protected by the prohibition against the simultaneous duplication of their programming by cable systems using imported signals. There would seem to be little argument for copyright liability for cable carriage of *local* signals since once the program supplier sells a program to a local station, he obtains access to the entire local audience either over-the-air or on the cable. In any event, liability could not be imposed without the removal of the requirement that all local signals be carried.

[3]Our analysis can be seen as a straightforward application of the "Coase theorem" in a context in which it has not been employed previously. In *Economic Analysis of the Law*, pp. 161-163, in considering copyright liability for cable, Posner does not invoke the theorem but instead discussed a balancing of the need for promoting creative activity against the monopoly power that the copyright produces. But elsewhere, in discussing the appropriate placement of liability in negligence cases, Posner employs much the same approach we use here: "Where the costs of transacting are high. . .the economic function of liability is evident: it is to bring about the level of accidents and safety that the market would bring about if transactions were feasible--the efficient level." "A Theory of Negligence," *Journal of Legal Studies*, January 1972, p. 37. But transactions would be feasible, we argue, if liability were imposed on cable systems.

[4]Curiously, despite the oft-made claim that transactions costs would preclude direct negotiations for programs, there appears to be little evidence to support such an assertion. The only data that we have been able to uncover have been those developed by Seiden to support his claim that "as a constraint on signal importation, the most likely economic effects of [copyright] costs is one of total exclusion." (M. H. Seiden, *Cable Television U.S.A.*, New York, Praeger, 1972, p. 112.) Seiden estimates that the annual cost of the administration of a cable system's copyright clearance activities would be $33,000 with additional costs for the copyright payments themselves. However, Seiden's data were obtained not by examining cable systems but rather by looking at the costs of educational broadcasters for clearance activities. And the costs he presents are not even those for individual stations but instead are for National Educational Television, which acquires programs for subsequent clearances to stations. Even then, Seiden's data come not from a direct analysis of the cost of the clearance process but are based on "reasonable" assumptions about the number and types of personnel and the associated office space and overhead required to arrange for the clearances of programs.

Footnotes (contd.)

[5]It is unfortunate that, in the economics literature, the term "transactions costs" is used to describe two quite different phenomena. In the discussions of the "Coase theorem," the term is applied to the costs involved when agreement must be reached among a large number of parties in order to carry out an activity. Transactions costs are said to be high in such situations because the free rider problem raises the cost of reaching an agreement. A second meaning of the term involves the costs of negotiation, contracting, and enforcement which exist *even when exchange is bilateral.* Surprisingly, this kind of transactions cost has received little attention in the literature. For an exception, see H. Demsetz, "The Cost of Transacting," *Quarterly Journal of Economics*, February 1968.

[6]One industry practice, the "stripping" of programs by independent stations, also limits the cost of transactions by cable systems. A common arrangement is for an independent television station to air different episodes of the same series during the same period during every weekday. Thus, there need be only one-fifth as many programs to negotiate for than if this practice were not followed.

[7]Quoted in L. L. Johnson, *The Future of Cable Television: Some Problems of Federal Regulation*, The Rand Corporation, RM-6199-FF, January 1970, p. 1.

[8]One scheme to reduce the costs cable systems would incur in negotiating for retransmissions rights is the so-called "block retransmission" proposal. Under this arrangement, a program supplier who sold a program to a broadcast station would be required to grant to the station the right to sell or give away the right to cable systems to retransmit the program. In this way, the cost to a cable system of negotiating for the station's entire schedule of programs would be greatly reduced because he could obtain the whole schedule in a single deal with the station rather than having to negotiate with many suppliers of programs.

Block retransmission would be an efficient solution to the liability problem *if* the sole market imperfection were the costs of negotiating retransmission agreements. However, the fact that imported signals are public goods that can be retransmitted by any number of cable systems from any number of broadcast stations will lead to a situation in which insufficient compensation is paid to program suppliers (and to distant stations) by cable systems. Independents with similar programming will be in competition with one another to sell retransmission consent. Since it will cost the independent nothing to sell the retransmission rights, the most that it can charge a cable system will be the additional cost of the cable system from importing the signal from the next closest independent if the program schedules are the same. If the program schedules of the independents differ, the most that a station can extract from the cable system is the differential value of its program (net of importation costs) and that of the next best signal, which is not imported. If the station charges more, the cable will find it more profitable to go to the farther station. As the number of stations that can be imported increases, the amount that the imported station can extract shrinks. Unless a program schedule

Footnotes (contd.)

is unique to a station, or retransmission is prohibitively expensive, block retransmission leads to cable payments to stations which are largely locational rents, that are below the subscribers' value of the programs shown. Thus the additional payments that can be extracted from imported stations by program suppliers will be less than the value to the cable audience, net of retransmission costs.

[9]A problem arises as to how to reconcile this assessment with the fact that copyright owners supported the Revision. One possible explanation is that, since the courts had ruled against suppliers in *Teleprompter* and *Fortnightly*, any delay in the passage of the Revision worked against the interests of suppliers. Some payments in the present might be superior to larger payments in the future. One might even trace the reduction in the proposed fees and even the introduction of compulsory licensing to the outcomes of the copyright cases in the courts.

[10]Station and network revenue divided by total television homes. *Television Handbook* (1976), pp. 61a, 67a.

[11]The value of the additional signals is the price increase necessary to keep the penetration rate constant when the signals are added.

[12]For estimates of the costs of importation see Comanor and Mitchell, op cit.

[13]Congress estimated that the fee schedule in the General Revision will produce $8.7 million (House Report Number 94-1476, 94th Congress, 2nd Session, at 91). This amounts to less than 1 percent of the overall gross revenues of cable systems, compared to the approximately 30 percent paid by the broadcast industry to program suppliers. While this comparison is not entirely apt, the contrast in the figures is striking, indeed.

[14]There is, however, one situation in which the imposition of copyright liability would have no effect on the production of television programs--namely, if both the number of hours of television broadcasting and the quality of programming were fixed. In that case, the imposition of liability would redistribute economic rents from CATV systems to program suppliers but would leave unaltered the programming broadcast by local and distant stations.

It might appear that the number of broadcast hours is indeed fixed, since in most markets there are no unused VHF channels. However, a substantial number of UHF channels remain vacant and, moreover, a significant number of the independent stations now on the air are only marginally viable, so that changes in the advertising revenues accruing to stations could well alter the number of broadcast hours. Furthermore, the quality of programming now available in the market is quite variable.

[15]"Harris Diagnoses Cable Ailments, Offers Cure-All," *Broadcasting*, October 18, 1976, pp. 52-53.

[16]"FCC Starts Ball Rolling on Exclusivity and Refranchising," *Broadcasting*, November 8, 1976, p. 26.

Footnotes (contd.)

[17] *Copyright Law Revision-CATV*, Hearings Before the Subcommittee on Patents, Trademarks, and Copyrights of the Committee on the Judiciary, United States Senate, 89th Congress, 2nd Session, p. 12.

[18] Importing a distant signal increases the number of competitors for access to a given audience. The audience on each existing channel will fall if the new station gains any audience and the total audience remains constant; total audience size appears to be insensitive to the number of stations available beyond four or five stations. For example, Park, Johnson, and Fishman estimate that the addition of two independent VHF stations to be a market with three network and one independent VHF stations will lower the original independent's share of revenues from 19.3 percent to 8.7 percent, a drop of 55 percent; see R. E. Park, L. L. Johnson, and B. Fishman, *Projecting the Growth of Television Broadcasting: Implications for Spectrum Use*, The Rand Corporation, R-1841-FCC, February 1976, p. 256. They (p. 308) suggest a drop in audience size of approximately the same amount. Additional support is provided by an analysis of the individual stations rates in markets with different numbers of stations in Stanley M. Besen, "The Value of Television Time," *Southern Economic Journal*, January 1976, and by the analysis of R. E. Park in "The Growth of Cable TV and its Probable Impact on Over-the-Air Broadcasting," *American Economic Review*, May 1971.

[19] FCC Rules and Regulations §76.151-159, §76.91-97.

[20] Under compulsory licensing, the FCC's exclusivity regulations also diminish the impact of the free rider problem associated with distant signal importation. However, in response to the enactment of the General Revision, the FCC is considering a modification of its exclusivity regulations (see footnote 16). In contrast, under full liability, exclusive contracts would occur only when the programmer would receive more revenue from exclusively supplying a local station than it would from the combined revenues from the station and from the cable systems' importing distant signals. If cable viewers valued the imported signals highly enough, the system operator will pay the supplier enough to compensate him for the lost revenues from the local signals. As we noted in Section IV, the right to exclude users is necessary to avoid the free rider problem associated with public goods, especially under compulsory licensing or no liability.

[21] United States Code §801.b.2.

V. CONCLUSION

A carefully drawn copyright law can provide a workable solution to the special complications that arise in the market for television programs. Since there are many potential users, each will have little or no incentive to pay for the use of a program unless required to do so. As a result, even if the combined valuation of all users exceeds a program's costs, the program may not be produced. Imposing full copyright liability on cable systems that import distant signals can be a relatively efficient mechanism for avoiding this "free rider" problem.

The courts rejected copyright liability for the importation of distant signals, and the 1976 General Revision of the Copyright Act has embraced a compulsory licensing solution. The objective of compulsory licensing is to limit negotiation costs, but unless rates are set correctly and adjusted frequently they will create the wrong incentives to program suppliers. If, as we conjecture, the rates contained in the Revision will generate too little revenue, then as cable penetration and distant signal importation increase, the ability of program suppliers to capture the incremental value of their programs will decline. Some suppliers may be forced out of business and others may never enter the industry at all. Moreover, since the distribution of royalty fees need bear little relation to a particular program's value, the composition of programming will also be adversely affected.

Due to the existence of negotiation costs, one cannot establish that full liability is unambiguously superior to compulsory licensing at the present level of cable penetration of television markets. Nevertheless, the long-run consequences of failing to adopt full liability are clear. As cable penetration increases, the "free rider" problem will dominate the costs of negotiation. A program market based on compulsory licensing will fail to contain the number and variety of programs that would be produced in a market with full copyright liability in which producers, cable systems, and television stations more fully respond to consumer preferences.

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