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## From Edison to the Broadcast Flag: Mechanisms of Consent and Refusal and the Propertization of Copyright

*Randal C. Picker\**

Encryption propertizes copyright. Prior to the rise of encryption, intellectual property wasn't really property. Instead, these rights consisted of rights to sue to block use or seek damages for after-the-fact use. Encryption makes possible before-the-fact limits on use of the sort that we associate with physical property. Copyrighted works are becoming real property in a way that will never happen for trademarks or patents.

This essay traces the role of consent and refusal for copyrighted works in the context of mass media entertainment. Early phonograph and movie projector manufacturers sought to limit the use of the equipment to specified music or films, almost certainly in an effort at price discrimination. With the rise of radio, we see similar use restrictions imposed by the record companies, but these restrictions should be seen first as a form of raising rival's costs. The fight over home-taping use of the VCR should be seen in consent terms as well, where entry was clearly facilitated by the absence of any requirement of advance consent from copyright holders.

Now with the current dispute over a possible broadcast flag for digital TV, we may complete the path started by Edison and his contemporaries. In considering the extent to which we should embrace full propertization of copyrighted works through encryption, we should expect transaction forms to vary with transaction costs and technological possibilities and should not somehow privilege a

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narrow set of institutional arrangements that arose under different constraints.

Rules of consent to and refusal of use have loomed large for copyrighted works over the last century. In some cases of product innovation, the rules of use do concern copyrighted works, but the fact that the control is exercised over a copyrighted work is merely a happenstance, a fluke of the nature of the product innovation. So patent holders over phonographs try to limit which music cylinders can be played<sup>1</sup> or film projector manufacturers do the same with movies,<sup>2</sup> just as A.B. Dick tried to limit the ink that could be used with its mimeograph machines.<sup>3</sup> These are typically cases of price discrimination—an effort to charge different users different prices depending on intensity of use—and the control over the used good is just a crude approach to measuring how much the consumer values the relevant technology. This type of price discrimination can be socially helpful or harmful.

In other cases, the limits are more directly strategic, as when record companies sought to bar play of records on radio. How radio influences purchasing decisions for recorded media—LPs and 45s, later 8-tracks and cassettes and now CDs—was and is hotly disputed, but the record companies have routinely sought to limit how radio stations could use “records.” These limits can be most naturally understood as a form of raising rival’s costs, as a way of making it more expensive for radio to compete with the record companies. These disputes continue today with the emergence of webcasting: “radio” stations that play music over the Internet rather than over-the-air.<sup>4</sup>

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<sup>1</sup> See *Leeds & Catlin Co. v. Victor Talking Machine Co.*, 213 U.S. 301, 312-13 (1909); *Leeds & Catlin Co. v. Victor Talking Machine Co.*, 213 U.S. 325 (1909).

<sup>2</sup> *Motion Picture Patents Co. v. Universal Film Manufacturing Co.*, 243 U.S. 502 (1917).

<sup>3</sup> *Henry v. A.B. Dick Co.*, 224 U.S. 1 (1912).

<sup>4</sup> See Randal C. Picker, *Copyright as entry policy: the case of digital distri-*

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In yet other cases, consent to use of copyrighted works need not be obtained upfront or perhaps even ever, and this shapes product innovation importantly. VCR manufacturers didn't need prior consent from copyright holders to enable home time-shifting. This gave the VCR a substantial advantage over the competing video innovation, the videodisc or the laser disc, which relied on prerecorded content. We know what happened: the VCR producers didn't ask for consent, were sued, and ultimately prevailed in *Sony* on a 5-4 vote in the U.S. Supreme Court on the ground that home time-shifting was a fair use, a form of mandatory license under copyright law—a mandatory consent to use.<sup>5</sup> We also see a related path in cable television, but there, a legislative deal replaced fair use rights with statutory licenses and royalties.<sup>6</sup>

We now have reached a new point. The shift from analog to digital is in full-swing and again questions of consent and refusal are at the forefront. Napster inaugurated digital distribution of copyrighted music, most of it ripped from CDs. As the CDs in the hands of consumers were not encrypted, Napster was able to enter without the prior consent of rights holders. Napster was sued and lost<sup>7</sup> and now has largely been replaced by entities with names that your kids know and you don't. In video, the VCR is on the way out—Sony has officially killed the Betamax<sup>8</sup>—to be replaced by the DVD, certainly for prerecorded playback and perhaps for recording, and maybe the digital video recorder, where analog tape is swapped for the digital hard disk. Unlike music CDs, where encryption of content has come very late, DVDs came with content controls from the getgo, and the

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bution, *The Antitrust Law Bulletin*, Summer-Fall, 2002.

<sup>5</sup> *Sony Corporation of America v. Universal City Studios, Inc.*, 464 U.S. 417 (1984).

<sup>6</sup> See Picker, *supra* note 4, at 441.

<sup>7</sup> *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004 (9<sup>th</sup> Cir. 2001).

<sup>8</sup> "Sony Pulls Plug on Betamax VCRs," *The New York Times*, August 27, 2002.

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question is whether those schemes can be enforced.<sup>9</sup> Television itself is to switch from analog waves to digital 1s and 0s, and the question before the Federal Communications Commission is how the mechanism of consent and refusal—denominated here as the “broadcast flag”—should be built into the technology from the ground up.<sup>10</sup>

With encryption, we are on the verge of a significant step in copyright: we will actually turn copyrighted works into property. While we frequently speak of copyright, patents and trademarks as “intellectual property,” this is casual, a classificatory short-hand that we think helps us to understand these three distinct bodies of law. But the term itself is quite misleading, as in some basic way, to date, intellectual property has lacked one of the key characteristics of tangible property: absent taking by force, use of tangible property requires prior consent of the owner. This isn’t true for intellectual property: I can sing copyrighted songs in the shower to my heart’s content. Intellectual property has been protected by something more akin to the torts system: a right to sue for the violation—meaning use without consent of course—of a specified right.

Note also that this type of propertization is distinctive for copyright. We should not see this for trademarks or patents. The swoosh that appears on my Nike running shoes is one of the most visible symbols in the world. If I wanted to start attaching the swoosh to my papers in a bid for cachet, without advance notice—and it would not have that—Nike has no way to stop me, and can only sue after-the-fact seeking damages and an injunction. The swoosh is not locked up; Nike can use it, but so can I, and trademarks generally don’t have the exclusive control that we associate with physical property.

The same is true for patents. The core of the U.S. patents scheme is public disclosure of the invention in exchange for exclusive use rights for 17 years. Once I pay my \$3 to download a patent from [www.uspto.gov](http://www.uspto.gov), I can put it to use immediately. Of course, that will

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<sup>9</sup> *Universal City Studios, Inc. v. Corley*, 273 F.3d 429 (2d Cir. 2001).

<sup>10</sup> See *In the Matter of Digital Broadcast Copy Protection*, Notice of Proposed Rulemaking, FCC 02-231 (August 9, 2002).

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be patent infringement, subjecting me to after-the-fact suit for damages and injunction, but again, with our system of public filing of patents, the patent holder does not have exclusive control over the content described in the patent. I have as much access to it as she does. It is only in copyright that we can imagine a rights holder asserting exclusive control through encryption.<sup>11</sup>

The propertization of copyright through encryption means that the owner of a copyrighted work will be able to control access to the work through prior consent or refusal. No means no, just as it does for tangible property. If breaking the encryption scheme to gain access to a copyrighted work is treated as breaking into my home to steal my computer—and the controversial Digital Millennium Copyright Act largely embraces this scheme<sup>12</sup>—we further vindicate the consent and refusal choices of the owner of the copyrighted work. Had such a scheme been in effect in the 1970s, both the VCR and cable TV might have developed quite differently. Just to get going, both would have required advance consent from copyright holders, and that might have been quite difficult to obtain.

This essay sketches these cases of consent and refusal for the use of copyrighted works over the roughly 100-year path that has taken us from the age of Edison to the age of encryption and the propertization of copyrighted works. For Edison and his contemporaries, no didn't mean no, even if they wanted it to—and they did—and that has been true for most of the 20<sup>th</sup> Century. That is changing and this essay then turns briefly to considering the implications of this change.

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<sup>11</sup> This ignores trade secrets obviously, where secrecy and exclusive control are the defining characteristic of the valuable asset.

<sup>12</sup> Codified in relevant part at 17 U.S.C. §§ 1201 – 1205.

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## I. Control over the Equipment: The Phonograph and the Film Projector

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In the early 20<sup>th</sup> century, Victor Talking Machines Co. was one of the Big Three in the new phonograph industry (the others were Edison's National Phonograph Company and the Columbia Phonograph Company).<sup>13</sup> As is often the case in new industries, competing technical approaches created some natural separation in the market. Edison's early work in 1877 on the phonograph used tin foil wrapped around a metal cylinder, and he eventually relied on wax cylinders when he sought to commercialize his invention around 1888. Other producers emphasized discs—flat circles—which, of course we know, is the dominant format today, as seen in CDs and DVDs.<sup>14</sup>

Victor went beyond technical separation to try to ensure that its players played only Victor records. It did this in part through patent litigation, successfully arguing that a producer of records that could be played on the Victrola violated the combination patent represented by the record and the reproducing stylus matched to the re-

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<sup>13</sup> See Andre Millard, *America on Record: A History of Recorded Sound* 49-50 (Cambridge Univ. Press 1995).

<sup>14</sup> In this early standards battle, momentum quickly moved in favor of discs. Columbia dropped cylinders entirely by 1912, and with U.S. Phonograph Co.'s exit in 1913, Edison's then phonograph company, Thomas A. Edison, Inc., was left as the last producer of cylinders. Even Edison seemed to recognize the inevitable, introducing its Diamond Disc Phonograph in 1912. Edison sold cylinders until 1929. See Oliver Read & Walter L. Welch, *From Tin Foil to Stereo: Evolution of the Phonograph* 175 (Howard W. Sams & Co., Inc., 1959); U.S. Library of Congress, "The History of the Edison Cylinder Phonograph," (<http://memory.loc.gov/ammem/edhtml/edcylldr.html>). The success of the disc came from the ease of production; the cylinder actually played a superior sound. Id. Even when the market coalesced around discs, manufacturers achieved some technical separation by using different spindle-and-hole systems, giving rise to a market in adaptors. See Chuck Miller, *Aretino Records: The "Hole" Story* (<http://members.aol.com/clctrmania/cm-aretino.html>).

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cord. (The Victor record used a spiral line of even depth, while the approaches by Edison and Bell/Tainter used a groove of uneven depth.)<sup>15</sup>

Victor also tried to limit play through contract and license. Each Victrola came with a plate attached to it setting forth a lengthy “License Notice.” The License Notice addressed many issues, but it started by addressing the question of licensed uses:

This machine is manufactured by us under our patents hereinafter noted, and is licensed for use only for the term of the patent having the longest term to run, and only with sound records, sound boxes and needles manufactured by us; and our records and sound boxes are licensed only for use with our machines.<sup>16</sup>

It is not crystal clear who this was aimed at. As the Supreme Court noted, it was unlikely anyone actually read the full License Notice or that anyone who read it, understood it. The Victor contract stood little chance of being enforced against end-users. Victor needed to go after the middlemen facilitating the violation of the License Notice, and they did in chasing Leeds & Catlin, but Victor did that in reliance on patent law, and not through the protections of the License Notice.

These restrictions might have been more useful in the other new, turn-of-the-century device-based entertainment medium, namely motion pictures. The early history of motion pictures is dominated by the Motion Pictures Patents Co., a patent pool organized as a “subterfuge” to control the motion pictures industry.<sup>17</sup> Movie projectors licensed under its patents came with the following plate attached:

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<sup>15</sup> See *Leeds & Catlin Co. v. Victor Talking Machine Co.*, 213 U.S. 301, 312-13 (1909); *Leeds & Catlin Co. v. Victor Talking Machine Co.*, 213 U.S. 325 (1909).

<sup>16</sup> *Victor Talking Machine Co. v. Strauss*, 230 F. 449, 451 (2d Cir. 1916), reversed on other grounds, 243 U.S. 490 (1917).

<sup>17</sup> See Floyd L. Vaughan, *The United States Patent System* 46 (Greenwood Press ed. 1977).

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The sale and purchase of this machine gives only the right to use it solely with moving pictures containing the invention of reissued patent No. 12,192, leased by a licensee of the Motion Pictures Patents Company ...<sup>18</sup>

Here, the end-users were not consumers, as was the case the phonograph, but instead were exhibitors of movies, for-profit businesses.

Limitations of the sort used by Victor and the Motion Pictures Patents Co. are probably best explained as attempts at price discrimination. Here, the idea is that the Victor would like to charge more to individuals who place a higher value on the phonograph. With modern technology, it might just do that through direct metering of the amount of use, say the hours of music played. Play 10 hours of music per month, pay \$10 per month to Victor for the use of the phonograph, play 20 hours pay \$20.

Absent the ability to engage in direct metering—and Victor probably couldn't have done this at a reasonable price—a natural alternative is to try to collect more from those who place a high value on music through the records themselves. People who like music more will buy more of it, so the purchase of records themselves might operate as an indirect way of metering use. The key to this, though, is the ability to charge more-than-competitive prices for the record, as otherwise this accomplishes little for Victor. Victor can't do that if the record market is competitive, unless it has a means—legal or technical—to insist that only Victor records be played on Victor phonographs, hence the limitation. Again, had Victor been able to meter directly, the price discrimination rationale would have given Victor little reason to tie Victor phonographs with Victor records.

## II. Control over Competition: Radio and the VCR

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The restrictions used by Victor and the Motion Pictures Patents Co. appear to be efforts at price discrimination rather than efforts at con-

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<sup>18</sup> Motion Picture Patents Co. v. Universal Film Manufacturing Co., 243 U.S. 502, 506-07 (1917).

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trolling more, subtle strategic interactions. A second reason to use restrictions of this sort is more strategic, an effort to alter competition. Consider radio and the VCR.

### *A. Radio*

The record/radio interaction lends meat to a possible strategic angle for restrictive legends. Whether radio complements record sales or is instead a substitute for them remains a hotly-contested question. Do I buy fewer records when I can listen to music for free—over the air in the beginning and over the web today—or is radio free advertising for record sales? This is hardly a new question: sheet music sellers faced the same conundrum when the phonograph emerged and the new phonograph companies started producing content without the consent of copyright holders.<sup>19</sup>

This question still looms large today. The continuing fight over payola—the practice of paying for play of songs, either directly or indirectly—is precisely about the way in which radio play influences what listeners hear and buy.<sup>20</sup> The radio/record intersection is also at the heart of the fight over how much webcasters should pay when they “broadcast” CDs over the Internet.<sup>21</sup>

These issues need not detain us here, but consider instead the legends used by record manufacturers in the 1930s. Judge Learned Hand’s important 1940 opinion in *RCA Manufacturing Co. v. Whiteman*,<sup>22</sup> mentions two legends used by RCA, the simple “Not Licensed for Radio Broadcast,” and the more complex:

Licensed by Mfr. under U.S. Pats. 1625705, 1637544,  
RE. 16588 (& other Pats. Pending) Only for Non-

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<sup>19</sup> See Read & Welch, *supra* note 14, at 391.

<sup>20</sup> For the history, see R.H. Coase, Payola in Radio and Television Broadcasting, 22 J. Law & Econ. 269 (1979), and for current disputes, see Anna Wilde Mathews & Jennifer Ordonez, Music Labels Say It Costs Too Much to Get On Radio, *The Wall Street Journal*, June 10, 2002, p. B1.

<sup>21</sup> I offer a more detailed discussion of webcasting in Picker, *supra* note 4.

<sup>22</sup> 114 F.2d 86 (2<sup>nd</sup> Cir. 1940).

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Commercial Use on Phonographs in Homes. Mfr. & Original Purchaser Have Agreed This Record Shall Not Be Resold Or Used for Any Other Purpose. See Detailed Notice of Envelope.

*Whiteman* rejected the efforts by record producers to limit broadcast use by notices affixed to the records themselves.<sup>23</sup> These legends barring radio play are easily understood in strategic terms, as an effort to raise rival's costs. Record companies feared that radio would operate as substitute for records. Radio stations could just use live performances—and did, of music, dramatic shows such as *The Shadow*, and comedy classics such as *Fibber McGee and Molly*. Switching from live music to recorded music obviously held the promise of lowering one key input cost, and records were the natural source of the music. It is easy to see record owners making an initial move to limit use by radio companies as a way to reduce music competition and to set themselves up for a subsequent attempt at price discrimination, by licensing records for specific broadcast use to the radio networks.

#### *B. The VCR*

With color TV reaching a saturation point, a number of companies were pursuing research programs to create the next great consumer video device. Indeed, some companies, such as RCA, were pursuing multiple approaches simultaneously. Two paths were seen as particularly promising, magnetic tape and prerecorded disks, the video equivalent of the Compact Disc for music. The success of the VCR and the failure—at least in its first incarnation—of the prerecorded video CD can be traced in part to the role of consent as to copyrighted works.

Sony launched a freestanding VCR in the U.S. in February, 1976.<sup>24</sup> Early purchasers of the VCR looked to it for time-shifting of TV broadcasts, not play of prerecorded tapes.<sup>25</sup> This considerably

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<sup>23</sup> *Id.* at 89-90.

<sup>24</sup> John Nathan, *Sony* 106 (Houghton Mifflin, 1999).

<sup>25</sup> Michael A. Cusumano, Yiorgos Mylonadis & Richard S. Rosenbloom,

simplified the consent and refusal process. VCR manufacturers didn't need to coordinate with copyright owners to get access to broadcasts—didn't need to get their consent—but could instead just litigate with them and win or lose.

Not that Sony actually played this through in advance of releasing the VCR. Of course, Sony made the standard lawyerly moves of its entertainment predecessors. A predecessor to the Betamax, the Sony U-Matic, came with an attached plate bearing the legend “This videotape recorder is not to be used to record copyrighted works.” The Betamax itself did not bear such a plate, but the operating instructions addressed the copyright question: “Television programs, films, videotapes and other materials may be copyrighted. Unauthorized recording of such material may be contrary to the provisions of the United States copyright laws.”<sup>26</sup>

Much more to the point is that it appears that Sony hadn't considered whether there would be a real copyright problem and even dismissed the likelihood of a lawsuit in the face of direct allegations of copyright infringement from Sidney Sheinberg, then the president of MCA/Universal.<sup>27</sup> But the VCR producers didn't have to get consent before the fact to access the broadcasts—more precisely, to allow their customers to record broadcasts—and didn't. The manufacturers also didn't need to induce the copyright owners to issue prerecorded tapes, which would have required the owners to wrestle with the standard question of how distribution on the new medium might undercut revenue streams from other media, such as movies, pay TV, cable and broadcast TV. In contrast, the main competition in next-generation video—think the video record or the video CD, as captur-

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Strategic Maneuvering and Mass-Market Dynamics: The Triumph of VHS over Beta, 66 *Bus. Hist. Rev.* 51, 84-85 (1992); *Universal City Studios, Inc. v. Sony Corp. of America*, 480 F.Supp. 429, 439 (C.D. Calif. 1979), *aff'd in part and rev'd in part*, 659 F.2d 963 (9<sup>th</sup> Cir. 1981), *rev'd*, 464 U.S. 417 (1984).

<sup>26</sup> *Id.* at 436.

<sup>27</sup> See Nathan, *supra* note 24, at 106-08.

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ing the idea of a prerecorded video disk technology—depended precisely on careful coordination of hardware and content.<sup>28</sup>

Barely six months after the Betamax was introduced in the U.S., Sony was sued for copyright infringement.<sup>29</sup> The lawsuit sought money damages, as well as an injunction against the Betamax. One of the issues that the case addressed was the question of copyright owner consent to time shifting. At the Supreme Court, the majority understood the copyright owners to contend that they had the exclusive right to distribute VCRs.<sup>30</sup> This flowed from the view that the copyright owners could insist on advance consent to the taping of their copyrighted works.

In his dissent, Justice Blackmun was sensitive to the design decisions made about the VCR and what the future might hold. The decision to allow recording, rather than just playback of prerecorded tapes, was of course the key design choice. That gave the product a decided advantage over competing playback only systems, such as the RCA VideoDisc, and of course it was the recording feature that raised the hackles of the copyright owners. Justice Blackmun also understood that new technology might allow the VCR to permit or bar recording based on a signal sent by the broadcast, and suggests that the Court should have left open the possibility the Sony would have had the duty to respect such a signal.<sup>31</sup>

Why did some copyright owners oppose the VCR? One possibility, of course, is that they didn't oppose it at all, but that they were simply looking to maximize their bargaining position by ensuring that their consent was required before programs could be recorded. This is to give copyright owners a consent right and might have re-

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<sup>28</sup> See Margaret B.W. Graham, *The business of research: RCA and the VideoDisc* 113-14 (Cambridge Univ. Press, 1986).

<sup>29</sup> See Nathan, *supra* note 24, at 108.

<sup>30</sup> See Sony, 464 U.S. at 441 n. 21.

<sup>31</sup> See Sony, 464 U.S. at 494 (“Sony may be able, for example, to build a VTR that enables broadcasters to scramble the signal of individual programs and ‘jam’ the unauthorized recording of them”).

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sulted in a copyright tax system, with royalties on VCR and tape sales. Indeed, we embraced such a scheme for digital recording devices in the Audio Home Recording Act of 1992.<sup>32</sup>

Putting to one side the hold up value of having to consent to copying, for copyright holders, the critical question was whether the VCR was seen as a competitor or as another means of content distribution. This depended largely on how consumers would use the VCR: playback of self-recorded tapes, mainly from TV or purchase or rental of prerecorded tapes? Play of prerecorded tapes made the VCR a new channel of distribution, one that, with the benefit of hindsight, we know to have become extraordinarily valuable. But if purchasers had focused instead on play of recorded programs over TV—and this is what early VCR purchasers did—the VCR might have altered video competition in important ways.

Greater consumer control over broadcast TV might have shifted the mix between consumption of free video (TV) and fee video, such as movies seen in movie theaters. Suppose that I love soap operas and would watch them over anything else, but work during the day. At night, when I can consume video, the soaps aren't on, so I go to movies instead. When the VCR was introduced, fee video was less time-constrained than free video, which you had to watch when it aired or it was gone, so a VCR used for recording might have shifted the consumption mix in favor of TV to the detriment of movie producers.

The second thought is raised in *Sony* itself and now in the litigation over the digital video recorder is that the ability to skip commercials would kill free TV entirely. On this line, consumers will stop watching commercials, given the power to do so. Commercials are the way we “pay” for free TV, so if advertisers know no one is watching the commercials, they won't buy ad time. Free TV dies. Efforts by copyright owners to control home-taping then becomes an effort to protect the financing mechanism for free broadcast TV, and a hope to solve the collective action problem consumers might otherwise face (we each want the other guy to watch the commercials).

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<sup>32</sup> See P.L. 102-563 (Oct. 28, 1992), codified at Chapter 10 of Title 17 of the United States Code.

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### III. Control Perfected: Digital TV and the Broadcast Flag

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This essay has tracked roughly the 20<sup>th</sup> century development of the devices of mass entertainment: the phonograph and movies; radio; and the VCR. The glaring omission of course is television.<sup>33</sup> The technical invention of TV occurred amidst the almost prototypical competition between the loner—Philo T. Farnsworth—and the industrial behemoth—RCA.<sup>34</sup> But “inventing” TV technically was in some sense the easy part; the hard part was putting together the integrated platform of complements that commercialized the invention: manufacturing, distribution, and most importantly, content. Here, RCA was uniquely situated to drive TV forward, notwithstanding enormous uncertainties, and did so under David Sarnoff’s leadership. As a vertically integrated entity—with R&D, manufacturing and, most importantly, ownership of the National Broadcasting Co.—RCA had the power to create black-and-white TV.<sup>35</sup>

Switching from black-and-white to color was almost as complex. The move from monochrome to color involved a struggle over standards—where the FCC, after hemming and hawing, chose a CBS-backed system, only to reverse course three years later and adopt a system RCA was pushing. The Korean War prevented manufacture of color sets, while allowing production of black-and-white sets, and

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<sup>33</sup> And cable of course. On cable entry, early case law favored the copyright owners, but two key Supreme Court decisions established that cable operators were more like viewers than broadcasters and therefore did not perform the works that they carried. *Fortnightly Corp. v. United Artists Television, Inc.*, 392 U.S. 390, 400-01 (1968); *Teleprompter Corp. v. Columbia Broadcasting System, Inc.*, 415 U.S. 394 (1974). That regime lasted less than two years, as the Copyright Act of 1976 reset the rules for so-called secondary transmissions, treating some unauthorized transmissions as a copyright infringement but coupling that with a statutory mandatory licensing scheme. See 17 U.S.C. § 501, 17 U.S.C. § 111.

<sup>34</sup> Evan I. Schwartz, *The Last Lone Inventor* (Harper Collins 2002).

<sup>35</sup> See Kenneth Bilby, *The General: David Sarnoff and the Rise of the Communications Industry* Ch. 6 (Harper & Row, 1986).

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this created a deeper installed base of TV sets. This mattered, as RCA's system was backward compatible, meaning that monochrome sets could receive color broadcasts without an adaptor, while the CBS system would have required retrofitting with adaptors. The war also gave RCA the chance to improve its all-electronic system, while CBS's combined mechanical-electronic system didn't move forward substantially during that time due to inherent limitations in the core mechanical technology.<sup>36</sup>

We are now in the midst of our second TV standards switch, a move from the NTSC color standard set in 19xx to digital TV. The FCC established a new over-the-air broadcast standard on December 27, 1996.<sup>37</sup> Digital TV promises greater definition, better sound, and more flexibility, plus digital over-the-air broadcast uses spectrum more efficiently.

Any standards switch is hard. This one is complicated by the fact that we do not have an RCA today, a vertically-integrated private entity that can benefit across the platform—hardware and content—from the switch (Sony might be the best match, but seems to play no special role in this standards switch). The presence of cable and satellite TV further complicate matters. It is not merely a question of synching digital broadcasts with digital tuners—though this is hard and controversial enough<sup>38</sup>—but also getting the digital content into the pipes—whether coaxial cable or beams from satellites—that actually deliver TV content to most viewers. Cable and satellite TV were not a bottleneck in the prior TV standard settings.

Were these problems not enough, we finally get to the “broadcast flag.” Justice Blackmun's dissent in *Sony* recognized that in the fu-

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<sup>36</sup> See *id.* at chs. 8 and 9.

<sup>37</sup> In the Matter of Advanced Television Systems and Their Impact on the Existing Broadcast Service, FCC 96-493 (December 27, 1996).

<sup>38</sup> In a ruling that is sure to be challenged, the FCC has set a schedule pursuant to which consumer electronics manufacturers must include digital tuners in a variety of devices, including TV sets. See In the Matter of Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television, FCC 02-230 (August 9, 2002).

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ture, a copyright owner's consent to home-taping might be embedded in the broadcast signal. The FCC has commenced a rule-making to consider precisely this question as part of the switch to digital TV, to consider to what extent the FCC should embrace some sort of broadcast flag.<sup>39</sup> This comes on the heels of an industry process under the guise of the Broadcast Protection Discussion Subgroup, which vetted many of the issues relating to a broadcast flag.<sup>40</sup> If consumer electronics devices were designed to recognize the consent or refusal represented by the broadcast flag, the path started by Victor and the Motion Pictures Patent Co. would be completed. Copyright owners could control use at the end-user level and copyright would be more fully propertized.

#### IV. Understanding the Propertization of Copyright

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The move towards the propertization of copyright through encryption—turning copyrights into *real* intellectual property—is quite controversial. The flashpoint is the Digital Millennium Copyright Act—a complex statute—but which, in the simple version, places limits on the extent to which encryption schemes can be defeated. Again, as copyright holders can lock content in a way that patent holders and trademark owners cannot, encryption propertizes copyright and the DMCA vindicates those locks and keys.

One of the critical battlegrounds of digital consent is the question of the scope of rights that a consumer should have in a copyrighted work and whether producers can set those rights through a combination of contract and technology limits. In these settings, technology just operates as contracts with end-users that can, in the main, be enforced. The legends used by Victor, the Motion Pictures Patent Co. and RCA can be implemented through technology. No means no.

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<sup>39</sup> In the Matter of Digital Broadcast Copy Protection, Notice of Proposed Rulemaking, FCC 02-231 (August 9, 2002).

<sup>40</sup> See *id.* at ¶ 2.

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What of course is driving this, is that the technology of consent has changed and this now makes richer licensing structures possible, thereby allowing greater product diversity (meaning more licensing options here). If copyrighted works—in the main, music and video—are delivered over the Internet, the use rights can be quite tailored. The changing technology of consent makes it possible to unbundle the rights heretofore associated the grant of access to a copyrighted work.

The criticism of the propretization of copyright through encryption is both doctrinal and more theoretical. At the level of doctrine, much of the discussion focuses on copyright's idea of fair use.<sup>41</sup> A critical question here—if not *the* critical question—is the interaction between copyright and contract. If I as a copyright holder attempt through contract to specify a set of use rights that would be more restricted than those that a user would otherwise have under fair use, is that contract enforceable as written or is it void against public policy? More simply, are fair use rights waivable or non-waivable? A detailed doctrinal discussion is outside the scope of this essay, so I will leave that for another day.

Focus instead on the theoretical criticism, and pursue two angles on this. The first is to consider whether certain use access forms—rental and ownership, for example—that arose in one particular technological context should have any special status when the technology context changes completely. The second is to focus on the consequences of insisting that consumers must receive a mandatory “bundle” of fair use rights that cannot be altered through contract or technology.

On the first, I find it difficult to understand why we should privilege a set of packages of use rights that arose in a different transactions costs and technological setting. To date, we have lived with two main modes of access—per use typically through rental and full, unvarnished ownership. There certainly is an undercurrent suggesting that any attempt to package use rights in a way that deviates from

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<sup>41</sup> Codified at 17 USC § 107.

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those modes is necessarily out of bounds.<sup>42</sup> So if a content owner sells you a music CD but limits your ability to play it to just music CD players and bars play on computer CD player or space-shifting to an MP3 player, this restriction—be it through contract or through technology—is somehow illegitimate.

This is difficult to understand. The narrow set of institutional arrangements for access to content that have been supported to date reflect the transaction costs and technological difficulties of implementing alternative arrangements. As technology changes and the transactions costs of creating richer access rights drops, we should expect to see many new institutional arrangements.

One key conception of fair use looks to transaction costs.<sup>43</sup> This conception of fair use means fair use rights should change with the times, that fair use rights depend on the technological and institutional context in which transactions take place. As transaction costs drop, through a combination of institutional arrangements, such as the [copyright clearinghouse] and as the Internet creates a ubiquitous structure for micro-transactions—microconsents with micropayments—fair use might cease to play a meaningful role. Note that this means that we would not end up with “underutilized” copyrighted works. Microconsent, as it were, would make it possible to charge users small amounts for small uses, and we could march down the demand curve for a particular work.<sup>44</sup>

A second perspective on fair use is less concerned with the transactions costs of consented to use and more focused on the allocative choices that we appear to make when we allow producers to hand out

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<sup>42</sup> See, e.g., the consumer bill of rights at DigitalConsumer.org (<http://www.digitalconsumer.org/bill.html>).

<sup>43</sup> See Wendy J. Gordon, Fair Use as Market Failure: A Structural and Economic Analysis of the *Betamax* Case and its Predecessors, 82 Colum. L. Rev. 1600 (1982).

<sup>44</sup> For a more detailed description of this idea, see Stan Liebowitz, Policing Pirates in the Networked Age, Cato Policy Analysis No. 438, at 17-18 (May 15, 2002).

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narrow slices of permitted uses.<sup>45</sup> On this perspective, even if dropping transactions costs allowed us to price discriminate perfectly and thereby maximize the use of a copyrighted work, all of the surplus from the work would be allocated to the producer. If your allocative tastes run differently, then you might favor a set of non-waivable fair use rights, and hope that any diminution in returns to producers doesn't reduce the incentive to produce creative works in the first place.

Even this turns out to be tricky to make work. If a music CD must come with the right to make an MP3 copy, producers may just raise the price for the bundle, and this may squeeze out some consumers.<sup>46</sup> Moreover, this approach to fair use limits product diversity. Each consumer has to be sold the same bundle of attributes, regardless of whether a particular consumer wants to be able to move songs to an MP3 player. In many ways, a mandatory fair use bundle runs contrary to the history of blanket licenses in ASCAP and BMI, where each has offered a blanket license giving full access to the ASCAP or BMI library and where rights users have sought a richer set of licenses allowing for more piecemeal use.<sup>47</sup>

The other issue of interest here is the question of whether the pro-*per*terization of copyright will induce greater creativity by allowing producers to capture a greater return on their works. While the technology of consent has changed dramatically as we have moved from Edison's phonograph to the broadcast flag of digital TV, we probably have not moved forward substantially on this key question. In 1940, Judge Learned Hand offered this perspective in considering RCA's effort to limit the radio use of records:

If the talents of conductors of orchestras are denied that compensation which is necessary to evoke their efforts

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<sup>45</sup> See, e.g., Julie E. Cohen, *Lochner* in Cyberspace: The New Economic Orthodoxy of "Rights Management," 97 Mich. L. Rev. 462 (1998).

<sup>46</sup> See Liebowitz, *supra* note 44, at 4-6

<sup>47</sup> *Broadcast Music, Inc. v. Columbia Broadcasting, Inc.*, 441 U.S. 1 (1979).

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because they get too little for phonographic records, we have no means of knowing it; and it is idle to invoke the deus ex machina of a “progress” which is probably spurious, and would not be for us to realize, if it were genuine.<sup>48</sup>

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<sup>48</sup> RCA Manufacturing Co., 114 F.2d at 90.

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