

Free Ride: An Institutionalist Analysis of Information in the Internet Age

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The distribution mechanisms for intellectual property are undergoing radical change. Until recently, intellectual property distribution was constrained by the technology of mechanical reproduction: LPs had to be pressed, CDs had to be burned, books and other written works had to be physically reproduced, videos and movies had to be copied onto tape or film stock, software had to be put on discs, and all had to be packaged and shipped to retailers and consumers. Under these technological constraints, intellectual property could be produced and sold in the same manner as shirts, footballs, and gallons of gasoline: all items were divisible, exclusive, and depletable and hence could be successfully sold through private markets.

The Internet, combined with high-speed modems, large-capacity disc drives, data compression algorithms, and the digitization of much information, is revolutionizing the markets for intellectual property. Digitized information is indivisible, non-exclusive, and non-depletable and hence is a public good by definition. As is commonly understood, the production of public goods will wither in private markets as sellers are unable to compel enough consumers to pay for the enjoyment they receive. While the production of new music, television programming, and motion pictures may be considered less urgent than that of some public goods such as national defense, these goods and services may nonetheless contribute greatly to our culture and welfare, and the production of new software and certain other intellectual property (such as scientific knowledge) often

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enhances productivity and living standards. Any threat to the production of such new intellectual property must be taken seriously.

The instrumental-ceremonial dichotomy provides a uniquely useful paradigm for analyzing the threat posed to intellectual property production by new technologies. Additional institutionalist concepts such as ceremonial encapsulation, the idea of instrumental efficiency as a constraint on technical efficiency, and the institutionalist approach to certain resource issues will allow us to recommend policies for exploiting these new technologies for the common good.

Profits versus Production

Mainstream economics includes two efficiency criteria: *allocative efficiency* is met when production of a good or service occurs up to the output level at which marginal benefit equals marginal cost; *productive efficiency* is achieved when an item is produced at the lowest possible average total cost. Any policies which push outcomes closer to allocative and/or productive efficiency are deemed desirable. In the case of digitized information distributed via the Internet, problems arise in meeting these efficiency criteria: since almost the total cost of production is fixed and the marginal cost of distributing content is virtually zero (excepting the nominal cost of bandwidth), both allocative and productive efficiency are achieved only through enormous output levels and market saturation. Given the unlikelihood of such production and distribution of intellectual property, it seems that this analytical approach may be fruitless. More broadly, mainstream economics presumes scarcity of goods and services, and hence is simply inapplicable to situations of abundance.

The threat posed to intellectual property production by the combination of new technologies and information sharing is a classic case of technology versus ceremony. In this institutionalist dichotomy, technological developments which are capable of generating instrumental advances may conflict with established patterns of thought and behavior which tend to be past bound and constraining. Given that most intellectual property is now produced in digitized form and that much of it is available via the Internet (either at legitimate commercial sites or through unauthorized sites), the marginal cost of providing a download to a user is virtually zero. These developments effectively create an abundance—the opposite of scarcity—of pre-existing intellectual property.

In the current business model of the recording industry, for example, the possibility of profit is the impetus to production and mainstream economics suggests that, within certain constraints, firms enhance social welfare to the extent that they *maximize* profits. However, while Adam Smith recognized that we get our dinners through the *self-interest of the butcher, baker, and brewer*, he also recognized that businesspeople may attempt to extract even greater profits by restricting output. In the music industry, recording companies have recently come under scrutiny for collusion, and recent legal

maneuvering against Napster exemplifies attempts to maintain scarcity for the sake of profits—scarcity where it need no longer exist. This rent-seeking behavior is understandable given that, in some respects, the production of intellectual property is a natural monopoly. This attempt at ceremonial encapsulation¹ may be viewed as an attempt to prevent instrumental progress for the large majority of users of intellectual property.

Thus under the current business model, digitized information and the Internet—by creating abundance of pre-existing intellectual property and reducing producers' abilities to collect revenue—threaten the continued production of new original intellectual property by enabling free riders. The arts generate value at least partly through variety, and this variety is threatened by the new technologies. Scientific knowledge is by nature evolutionary, not a product to be simply mass produced. Anything that reduces the ability to prosper from such new work may reduce the production of new original source materials, assuming the dominance of the current business model. Our first task, then, is to review the threat posed by information sharing to the production of new original source materials, as well as to appraise the resulting threat to consumer welfare from reduced variety.

The current business model need not be taken for granted, however. In the face of such revolutionary technology, we must critically examine our current mode of production of intellectual property and consider augmentations or replacements. Using Marc Tool's approach (1979, 301), we may state that distributing digitized information via the Internet generates *technical efficiency* ("extracting maximum output from resource inputs"), but as Tool argued, technical efficiency should be constrained and directed according to the concerns of *instrumental efficiency*, which dictate that the technology should be used in "the service of inclusive human and humane purposes." If it is determined that widespread information sharing does seriously threaten the variety of intellectual property and that the reduction of variety would reduce instrumental efficiency, we must consider both constraining the technology (if possible) as well as alternative production models; the latter may come down to the simple choice between profits and production.

Intellectual Property and Common Property

The authors have previously reviewed the literature of information copying and concluded that it is only partially applicable to the present topic (Galloway and Kinnear 2001, 281-282). These models assume either fixed costs with no marginal costs or vice versa, neither of which accurately describes Internet distribution systems which involve some fixed costs (hardware and access) and some marginal costs (in bandwidth costs and time spent acquiring downloads). An additional complication is that Internet users likely face widely varying marginal costs of acquiring downloads, since different users will spend different amounts of time finding, choosing, and acquiring downloads, incurring different marginal costs, depending on their proficiency levels and wage rates.

Rather than drawing parallels to previous research on copying, some have instead compared digital information to natural resources. Specifically, they have argued that when information property rights are so easily and commonly ignored, the outcome will be a *tragedy of the commons* (see, e.g., Ward 2000). While this rhetoric may only loosely fit new technological phenomena, it is appealing because it suggests a solution in line with conventional wisdom: enforceable and well-defined property rights. Naming the disease insinuates the cure.

The tragedy of the commons was famously rediscovered and popularized by the microbiologist Garrett Hardin, who argued “the inherent logic of the commons remorselessly generates tragedy” (1993, 131). The problem arises because individual hedonistic maximizers focus on the individual marginal benefits they can glean from the commons but ignore that part of marginal costs which arises from overuse and which is borne by all those with access to the commons. Music lovers, one might argue, eagerly download their favorite MP3s but give insufficient thought as to how the supply of such digital content will be replenished. In a bit of melodrama sure to swell the hearts of those in the property rights school, Hardin concluded “Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons.” “Freedom in a commons,” he continued, “brings ruin to all” (1993, 132). Improving such analysis demands both distinguishing between common property and open access and remembering that private property has its own problems.

An alternative analysis is suggested by James Swaney’s (1990) development of the concept of *common property vis-à-vis open access*. Swaney pointed out that open access “refers to resources that can be exploited by anyone without limit,” while common property “means a group of owners or users share use rights to the resource. Common property is characterized by restrictions on who uses the resource, and when and how” (Swaney 1990, 452). Although some analysis implicitly treats digitized intellectual property as an open access issue, it is in some short-run cases more accurately considered as common property. Certain systems, such as those popularly used for sharing digital music files, require reciprocity: users must allow access to their own hard drives as a condition of gaining access to other users’ files. This technological norm, which restricts access to MP3 libraries and when and how such files can be downloaded, explains the explosion in the supply of digital content for compliant users.²

However, in the long run such constraints only create the *impression* of community without any of its benefits: users must engage in reciprocity in order to get what they want, which amounts to a quid pro quo, but there is no mechanism for aligning individuals’ self-interest with the long-run interests of the group in ensuring the production of new original source materials. In the long run, sharing digital content more closely resembles the open access problem. While the depletion of existing content is not much of a concern, the continued provision of new music, science, comedy, and other intellectual goods may be disrupted by destroying incentives to produce such content. This problem arises not simply from a lack of property rights but precisely because the

Internet community is virtually an anti-community. There are no bonds of kinship or personal interaction. There is not even mutual recognition of others as distinct individuals. Interactions are impersonal and anonymous. Reciprocity arises from self-interest and only facilitates the free rider problem.

The conclusion that easily shared digital content resembles an open access problem does not necessarily suggest that free markets and better-defined property rights are the best solution. As Swaney argued, "Private property institutions provide fewer constraints against, and more rewards for, shifting costs than do common property institutions" (1990, 457). Indeed, it must be acknowledged that part of the incentives for sharing MP3s (to take one example), even at the risk of breaking the law, rests in the high prices and limited variety that results from the concentrated market power of the conventional recording industry (Galloway and Kinnear 2001, 280). In the commercial milieu, one does not expect rational individuals to reject the option which offers lower prices, lower transactions costs, and better variety.

In this sense, it is perhaps more reasonable to argue that problems of sustainability arise not simply from the lack of enforceable property rights but from both their existence in conventional markets and their absence, as created by technological advances, in new exchange regimes. It is the collision of two different institutional structures that exacerbates the process of cost shifting. While all users have interests in the production of new original source materials, current unauthorized distribution systems generate neither community values nor pecuniary incentives to facilitate the continued production of these originals. At the same time, the limitations and restrictions of conventional markets create perpetual incentives for increased reliance on unauthorized distribution systems even though these systems threaten long-run welfare. The conflicts and shortcomings of each of these opposing systems may prevent emerging technologies from achieving instrumental efficiency. New production and distribution mechanisms will be needed to ensure a continual flow of varied intellectual properties.

Generating Instrumental Change

Established purveyors of intellectual property may attempt to protect and enforce their property rights through technological fixes and through the legal system. This seems a textbook example of what Paul D. Bush (1987, 1094) described as the "past-binding" type of ceremonial encapsulation, in which

The community responds to unanticipated advances in the arts and sciences (either indigenous or borrowed from other cultures) by attempting to minimize the impact of the technological innovation on existing habits of thought and behavior. Since technological innovation requires changes in instrumentally warranted patterns of behavior, it carries with it a threat to the stability of the ceremonially warranted patterns of behavior that traditionally encapsulate the knowledge fund that is the common heritage of the community. In the face of

this threat, conscious efforts are made to shore up the existing value structure by an elaboration of ceremonial practices designed to minimize the innovation's dislocation of the status quo.

These tactics attempt to maintain a power structure that is increasingly at odds with technological reality. As we have previously argued (Gallaway and Kinnear, 2001, 282), technological solutions are likely futile, and the enforcement of copyright law in the face of widespread, anonymous violations is an almost Sisyphean task. Additionally, the market emphasis of such solutions may only reinforce users' self-interest and inhibit the formation of community values that support the creation of new intellectual property; it may also, as suggested above, create greater incentives for unauthorized distribution systems which further threaten production of new original source materials.

In the presence of common property, communal obligations and other institutions can align individual action with the long-run interests of society. Under the regime of private property, competitive markets are intended to serve the same purpose. Unfortunately, neither of these strategies used alone seems sufficient for addressing the new realities of digitized information. The vast and impersonal nature of the Internet does not foster true communal obligations. At the same time, the concept of private property becomes increasingly strained when talking about goods which are not scarce and do not even have a tangible manifestation. Competitive markets, for their part, do not work well in the provision of public goods where the allocatively efficient price is virtually zero. The need, then, is for new institutions to supplement more conventional market and communal institutions.

In previous papers (Gallaway and Kinnear 2001a, 2001b) we have argued for the creation of commercial download sites for digital song files, using empirical estimates of consumers' willingness-to-pay for clean, quick, legal downloads. While this is a potential solution, only practical experience will measure its success in converting bootleggers into paying customers; additionally, we have no data on consumers' willingness-to-pay for other forms of intellectual property. Other measures may be fruitfully applied in lieu of, or in addition to, the creation of commercial download sites. For example, government subsidization of the arts is already well established through the National Endowment for the Arts, state arts boards, and the like; given the transformation of music, writing, and some visual arts into common properties, such aid, combined with widespread dissemination of the arts via the Internet, may become necessary to ensure continued production of varied original source materials. By the same token, government production and subsidization of scientific research (e.g., the Human Genome Project and basic scientific research conducted in universities with federal funds) is commonplace; further government aid, along with wider dissemination of resulting knowledge, may generate significant instrumental advances. Some combination of marketization of Internet downloads, government subsidization, and government provision of intellectual property may represent the progressive institutional change described by Bush

(1987, 1101) as the displacement of ceremonial patterns of behavior by instrumental patterns of behavior.

Notes

1. For a general discussion of ceremonial encapsulation, see Paul D. Bush, "Theory of Institutional Change," *Journal of Economic Issues* 21, no. 3 (September 1987): 1075-1116. For an application of the concept to the issue of Internet music downloads, see Gallaway and Kinnear 2001, 280.
2. Many of the freely available software programs for listening to MP3s also enable users to "rip" or make digital copies of, songs from commercially recorded CDs. This additional technological norm helps explain the initial compressed digital copies of the millions of songs that would be repeatedly copied and exchanged over the Internet.

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