property is communal, they are not used efficiently. Private property guarantees that scarce goods will be put to their most efficient and productive uses. From this point of view, however, it is difficult to justify intellectual property rights, since these rights do not arise from the scarcity of the appropriated objects. Rather, the purpose of an intellectual property right is to create a scarcity, thereby generating a monopoly rent for the holder of the right. In this case, the law does not protect property over a scarce good, since the scarcity is created by the law itself. In fact, such artificial scarcity is the source of the monopoly rents that confer value upon those rights. The big difference between intellectual property rights and titles of property over tangible goods is that the latter will be scarce even if there are no well-defined property rights, whereas in the case of patents and copyrights the scarcity only arises after the property right is defined.

Defenders of patents and copyrights often deny that these property rights constitute monopoly privileges. They argue instead that the term monopoly is inapplicable in the case of patents and copyrights. While this may be a matter of semantics to some degree, in any event there is no theoretical incompatibility between the property and monopoly aspects of intellectual property rights. However, in practice, these aspects are closely related, since the monopolistic nature of patents and copyrights is precisely what confers economic value upon them. Obviously, like any other monopoly privilege, patents and copyrights can be valuable for their owners, though this does not in itself justify their existence. Clearly, the owners benefit from patent and copyright protection, but the really interesting question is whether society at large benefits as well. One important aspect of this broader issue can be dealt with in reply to the question posed for this controversy.

The Case of Copyrights

It should be noted from the outset that the term copyright, as currently used, actually comprises a bundle of several different rights that have become conflated because of the use of a single concept to cover the entire bundle. The expression used to denote copyright in Spanish, French, Italian, and Portuguese (derecho de autor, droit d'auteur, diritto d'autore, direito do autor) literally translates as “author’s rights.” The concept of author’s rights encompasses a broader range of rights in addition to the notion of copyright in the narrower sense (i.e., the right to control reproduction of the work). Such broader rights include the so-called moral rights of the author, which view literary and artistic works as extensions of the author’s personality. The moral rights of the author encompass the following protections: (1) the right to be identified as the creator of the work (so-called paternity rights of authorship and protections against plagiarism),
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"The greatest constraint on your future liberties may come not from government but from
corporate legal departments laboring to protect by force what can no longer be protected by
practical efficiency or general social consent."

John Perry Barlow
Would the Absence of Copyright Laws Significantly Affect the Quality and Quantity of Literary Output?

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and (2) protections against unauthorized alterations or mutilations of the work (so-called integrity rights of authorship). As opposed to mere copyright, these two moral rights of authorship have always been regarded as inalienable and perpetual. (A third moral right is also recognized, namely, the right to withholding publication, which is an aspect of a broader right to privacy, although it is not always clear whether it should be regarded as perpetual or whether it applies only to living authors. Should society be bound by an author's wishes after his death?)

Opposition to copyright in the narrower sense does not imply opposition to the moral right of authorship, which is a long-standing legal concept. Copyright, on the other hand, is a fairly recent notion that dates from, roughly, the invention of the printing press. Whether or not the right to control the reproduction of creative works is viewed as a natural right of authors, the fact is that prior to the invention of printing this right was not regarded as implicit in the concept of authorship. Copyright law was created by specific acts of legislation. In fact, every extension of the scope of copyright law to cover new productions resulting from technological innovations (such as photography, phonographic recordings of musical creations, film productions, computer software, and so forth) has required special legislation to that effect, since these extensions did not arise naturally from judicial decisions. As the following extensive quotation illustrates, courts have simply been unwilling to apply a concept created specifically for the case of printed books to these new situations:

The concept of copyright is rooted in the technology of print. The recognition of a copyright and the practice of paying royalties emerged with the printing press.... Copyright was a specific adaptation to a specific technology, and to the problems and opportunities it created. The law recognized this. The landmark case in the United States was White Smith v. Apollo (1908). It denied protection to piano rolls or sound recordings because they were not "writings" in tangible form readable by a human being. That common law concept of copyright excluded from protection many new technologies of communication since 1908. But the motion picture industry, the recording industry, and more recently the broadcasting industry have persuaded Congress to extend various protections to them, since courts were not willing to do so.... However, with the arrival of radio and electronic reproduction, and now photocopy reproduction, the concept becomes inappropriate.

There is no easy way to keep tabs on the numerous reproductions in somewhat variable form that can take place in innumerable locations with these new technologies. The analogy is to word-of-mouth communications in the 18th century, not to the print shop of that period. Nonetheless, information and publishing industries whose welfare and survival depends on finding some way to charge for their information processing services have latched on to copyright protection under statute law and are trying to get the courts or the Congress to extend copyright protection to computerized data, photocopies, and teleproduction. Though recognizing that in those technologies the existent copyright law is basically unenforceable, they nonetheless grab on to whatever frail reed it may provide rather than turn to the even frailer reed of trying to invent, and to get into legislation, some entirely new as-yet-unenvisioned system for rewarding the creators of information.... the U.S. Congress passed a new copyright law in 1976, which was designed to solve all the new problems of copyright for cable television, photocopying, and computers. It has solved few if any of them....

How inappropriate the concept of copyright is to computer communications becomes evident as we examine how the law has to squirm to deal with the simplest problems.... the process of computer communication entails a processing of texts that are partly controlled by people and partly automatic. They are happening all over the system. Some of the text is never visible but is only stored electronically. Some is flashed briefly on a terminal display. Some is printed out in hard copy. The receivers may be individuals and clearly identified, or they may be passers-by with access but whose access is never recorded; the passer-by may only look, as a reader browsing through a book, or he may make an automatic copy; sometimes the program will record that, sometimes it will not. To try to apply the concept of copyright to all these stages would require a most elaborate set of regulations. It has none of the simplicity of checking what copies rolled off a printing press....

One would like to compensate an author if a computer terminal is used as a printing press to run off numerous copies of a valuable text. One would not like to impose any control as someone works at a terminal in the role of a reader and checks back and forth through various files. The boundary, however, is impossible to draw. In the new technology of interactive computing, the reader, the writer, the bookseller, and the printer have become one. In the old technology of printing one could have a right to free press for the reader and the writer but try to enforce copyright on the printer and the bookseller. That distinction will no longer work, anymore than it would ever have worked in the past on conversation. Those whose livelihood is at stake in copyright do not like that kind of comment. They contend that creative work must be compensated. Indeed it must.... But the system must be practical to work.... In an era of infinitely varied, automated text manipulation there is no reasonable way to count copies and charge royalties on them.... It may be very unfair to authors. It may have a profoundly negative effect on some aspects of culture, and in any case, whether positive or negative, it may change things considerably.

If it becomes more difficult for authors and artists to be paid by a royalty scheme, more of them will seek salaried bases from which to work. Some may try to get paid by personal appearances or other auxiliaries to fame. Or the highly illustrated, well-bound book may acquire a special significance if the mere words of the text are hard to protect. Or one may try to sell subscriptions to a continuing service....

These are the kinds of considerations one must think about in speculating about the consequences for culture of a world where the
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If it becomes more difficult for authors and artists to be paid by a royalty scheme, more of them will seek salaried bases from which to work. Some may try to get paid by personal appearances or other auxiliaries to fame. Or the highly illustrated, well-bound book may acquire a special significance if the mere words of the text are hard to protect. Or one may try to sell subscriptions to a continuing service...

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Would the Absence of Copyright Laws Significantly Affect the Quality and Quantity of Literary Output?

royalty-carrying unit copy is no longer easy to protect in many of the domains where it has been dominant. It is clear that with photocopi-ers and computers, copyright is an anachronism. Like many other unen-forceable laws that we keep on the statute books from the past, this one may be with us for some time to come, but with less and less effect. The final passages from this long quotation suggest the intriguing possibility that, in arguing whether authors should have a copyright over their creations, we may be posing what will increasingly become a moot question. Techno-

logical developments in certain areas—photocopiers, video and sound record-
ing, computer scanning, and so forth—are making it harder to enforce claims to intellectual property. At some point, we might just have to give up trying to enforce such claims. But what would happen if copyrights were suddenly relaxed? Since the main utilitarian argument for maintaining copyright pro-
tection is that it stimulates literary and artistic creation, it is fair to inquire whether the absence of legally protected copyrights would significantly affect the quality and quantity of literary output.

To answer this question, we should note first that most authors never make much money writing books, and some actually underwrite the printing costs of their own works. Other authors are willing to accept payment for their intellectual property in terms of copies of their work (often in the form of off-printsm of journal articles). A great deal of scientific and academic writing is of this kind. For many of these authors, writing for publication is a way to in-
crease their brand-name capital in order to obtain higher incomes from other activities. Still other authors are interested primarily in spreading their views, so they would presumably have no interest in discouraging the reproduction of their writings, provided, of course, that their authorship is acknowledged. These authors would be quite happy if others were willing to reprint their work at no cost to themselves. The output of this type of writing evidently would not be affected much by the absence of copyright protection.

A second type of author writes for a living. If there is no other appropriate way to reward this person, then the absence of copyright protection would most likely reduce his or her total literary output. The real question is whether maintaining copyright protection is the only way to guarantee an income for this type of author. Sir Arnold Plant, an early twentieth-century English econo-
mist, believed that authors would find a way to sell their product if a demand truly exists for it. Notice, however, that the mere existence of copyright protection does not create this demand, it only provides a means to monopolize a demand once it has been found to exist. It is impossible to know a priori what kind of market structure would dominate in a different legal climate, though possibly there would be greater reliance on salaried writers for subscription-type publications with content being “given away” as loss-leaders to stimulate sales of other products. Moreover, as Pool suggested, there might be greater reliance on collateral sources of income, such as personal appearances, lectures, consulting, live performances, and so on. Whether alternative market arrangements would fully compensate the loss of income currently derived from copyright is an open question. Best-selling writers and composers might very well earn less money in a world without copyright protection. If so, then the quantity of literary and artistic output would most likely be lower. But precisely how much lower would be impossible to predict.

Plant argued that the absence of copyright protection would likely result in a smaller number of titles published. If true, this would not necessarily be bad, since most people seem to want more good books at lower prices and not necessarily more titles. Plant held that the copyright system has a somewhat perverse consequence because it encourages the publication of a broader range of titles, but not enough copies of the books people really want to read. Due to the nature of the industry, a publisher cannot be sure of the success of a new title, and, in fact, most titles do not even cover the printing costs. Nevertheless, when a title is successful it can be quite profitable, and these profits subsidize the losses from unsuccessful titles. Since a publisher cannot know beforehand which new titles will be successful, publishing can be compared to a lottery. To make money on successful titles, a publisher has to take a chance on many different titles, most of which will likely be unsuccessful. Copyright affects this situation by increasing the profitability of successful titles. In terms of the lottery, copyright protection increases the prize without affecting, on the other hand, the risks involved. Ceteris paribus, we expect that with equal risks, a larger prize will induce a player to buy more tickets. Therefore, more titles will be published under a copyright system, but the resulting monopoly position guarantees that the books people really want (the successful titles) will be published in smaller quantities and at higher prices.

Concluding Remarks

Issues related to intellectual property are becoming increasingly important in policy discussions. Recent technological developments—such as computer software (particularly the question of so-called Internet patents) and biotechnolo-

gies (in terms of the “patenting of life-forms”)—have created whole new classes of products that pose significant problems for the definition and delimitation of property rights. On the other hand, some of these technological innovations, such as downloadable MP3 computer files, are making it harder
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It seems to me that this example describes well how the market would solve the problem of computer software in the absence of copyright. It is often claimed that if software could be copied freely, then software developers would have no incentive to create it. Note, however, that hardware manufacturers would have an incentive to support software development (and, perhaps, even give it away for free), since the availability of more and better software increases the demand for hardware.

Perhaps, instead of proposing reforms to strengthen patents and copyrights, we should be moving in the opposite direction?

Notes


6. We may have already reached this point in the case of musical recordings.


8. This is the business model underlying contemporary journalism, which essentially hires staff writers to help sell the main product: advertising. There are many other examples of this type of arrangement. For instance, early radio broadcasters were subsidized by radio manufacturers, who were willing to lose money on broadcasting to stimulate demand for radio sets. Incidentally, it seems to me that this example describes well how the market would solve the problem of computer software in the absence of copyright. It is often claimed that if software could be copied freely, then software developers would have no incentive to create it. Note, however, that hardware manufacturers would have an incentive to support software development (and, perhaps, even give it away for free), since the availability of more and better software increases the demand for hardware.

9. In the case of music it is interesting to note that, prior to the development of the phonograph, copyright over music applied only to sheet music; i.e., it did not extend to the musical performance. It is an open question whether the gradual extension of copyright to cover not only musical recordings but any kind of public performance has resulted in increased quantity and quality of musical composition. In any case, if musical recordings could be freely copied (which, in practice, increasingly happens to be the case now due to the development of MP3 computer files), musicians would still have an incentive to compose and record music to stimulate the demand for live performances.


to enforce even conventional forms of intellectual property seen, for example, in musical recordings. The strains and stresses that these newer technologies impose on current intellectual property law are resulting in calls for tougher enforcement of existing legal mechanisms. The United States government has for several years taken the lead internationally in pressuring other countries to strengthen their intellectual property laws and make them conform more closely to current United States standards. In light of such developments, now is as good a time as any to rethink the concept of intellectual property rights. Perhaps, instead of proposing reforms to strengthen patents and copyrights, we should be moving in the opposite direction?

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