

Pablo Picasso is widely quoted as having said that “good artists borrow, great artists steal.” Whether or not Picasso was truly the first person to voice this idea is in some dispute. One can find passages in T. S. Eliot’s critical works which discuss how artistic theft of others’ work contributes to the creation of new art. The idea itself is probably much older. Shakespeare routinely stole plotlines and even whole scenes from other writers for his own plays. The thematic and technical similarities that characterize art movements are due in large measure to deliberate imitation of seminal works of art. But, whoever first put forward the idea, it is an essential truism in the creation of new knowledge.

Regardless of the origins of this particular notion of the importance of existing ideas to the creation of new ones, I find the choice of words we use to express it rather curious. Words like “borrow,” “steal,” and “theft” all originally refer to violations of property rights over physical objects, and all have taken on ethical connotations that go well beyond the economic issue of property. When I borrow a colleague’s pen to jot down an email address, I deny my colleague the use of her pen for the period over which I’ve borrowed it. But, since this period is generally limited and the use of the pen is granted by the owner, borrowing is generally viewed as a socially acceptable activity, as long as I don’t engage in it overly often. Stealing my colleague’s pen, on the other hand, is done without permission and denies her the use of it forever, an activity which Western society not only frowns on but actively seeks to deter.

But how is it that we have come to apply these words to the imitation of good ideas? Ideas have no physical reality, so the “borrowing” or “theft” of an idea cannot in any way deny the use of the idea to the idea’s creator, and yet, when we talk of music or DVD downloads from the internet, the most frequently used word in the discussion is “piracy,” with its connotations of black eye-patches, skulls-and-crossbones, pillage and murder. Given that my use of your idea in no way denies you the use of your idea, and may even lead me to create new ideas that you will benefit from, how have we come to view ideas as if they had some physical existence that we can lock up behind a set of property rights laws akin to, but remarkably different from, those we use to protect our physical property?

This is the central question in a new book by Michele Boldrin and David Levine, both well-known economic theorists at Washington University in St. Louis. The book, entitled *Against Intellectual Monopoly*, will be published by Cambridge University Press, but the preprint is available online (and, thanks to an agreement negotiated by the authors, will continue to be freely available online) at <http://levine.sscnet.ucla.edu/general/intellectual/againstnew.htm>. The answer that Boldrin and Levine come to is startling: except in a few rare cases, intellectual property protection does more economic harm than good and ought to be eliminated.

To understand Boldrin and Levine’s argument, we need to take a quick detour through the economic foundations of property rights. Physical property that is commonly owned (say a grazing pasture in the center of a small village) tends to be overused, since I will generally not be concerned that if my sheep eat all the grass, it leaves little or none for

your sheep. I also won't be concerned with the possibility that the land might be better used for planting corn, since I don't raise corn, but sheep. Of course, if all the farmers and shepherds in the village act this way, the end result is a field that has been destroyed by overuse and which no longer has value to anyone. Economists (and others) call this the "tragedy of the commons" and see property rights as a way of eliminating the problem. Lodging ownership of a scarce economic resource in a single individual ensures that the resource is used efficiently. This follows from the observation that the original owner will either use the resource as she wishes, or sell it to someone willing to pay what the owner demands because they can put the resource to better use.

The same thing cannot be said about ideas, since there can be no overuse of the common stock of ideas available to society, and hence, nothing comparable to the tragedy of the commons that is the basis of physical property rights. Absent any economic inefficiency in the use of ideas, then, there should be no basis for imposing intellectual property rights over ideas.

Since the usual economic argument for property rights doesn't hold for ideas, one frequently hears an alternative argument based on a notion of market failure. This perceived market failure stems from the assumption that once a good idea is revealed, it can be quickly and freely shared by all. If the actual creation and expression of these ideas is costly, then (so the argument goes) innovators will not be able to recoup the investment they make in coming up with innovations since they can't exclude non-payers from using their ideas unless the innovators have some kind of enforceable monopoly rights over their creations. This notion is enshrined in the U.S. Constitution under the so-called Copyright Clause, which gives Congress the power to provide limited terms of patent and copyright protection in order to "promote the progress of science and the useful arts."

This idea is also the basis for a number of theories of economic growth and what has come to be called Schumpeterian competition after Joseph Schumpeter, who first proposed it in the 1940's. The argument runs as follows. Costly investments in what economists have come to call human capital – education, basic research and corporate R&D – lead to innovations that drive growth. However, because these ideas can be freely copied and applied, innovators cannot recoup their investments. By providing intellectual property protection, however, society can insure that these investments get made, and stimulate new innovations which, in a process Schumpeter called creative destruction, lead to still more growth and innovation.

Boldrin and Levine take major issue with both of these arguments for intellectual property protection. The first part of the book focuses primarily on patents and the effect of patent monopolies on innovation. Economists dislike monopoly for two well-known reasons. First, monopolies generally restrict the supply of their product in order to keep prices and profits high. This generally results in under provision of the good the monopolist produces, relative to the social optimum. The second problem is what economists call "rent seeking" behavior. When entrepreneurs know that there is an opportunity to make monopoly profits, they compete to be the first to establish a

monopoly position. Since only one firm emerges victorious, the resources losing firms have invested in the race to monopoly are simply wasted. Boldrin and Levine identify a second inefficiency associated with rent seeking behavior, when an established monopoly devotes resources to maintaining its monopoly position. This kind of rent seeking behavior manifests itself in lobbying of legislatures or government regulators for favorable treatment that will help sustain the monopoly, and in litigation in the case of IP monopolies to prevent innovation that would endanger the monopolist's hold on her market.

Boldrin and Levine, in the book's Introduction, tell the story of James Watt, the Scottish entrepreneur and inventor whose improvement of early, inefficient steam engines in the 1760's made automated manufacturing processes possible and marked the earliest phase of the industrial revolution in England. Watt obtained patents on his improvements and, with financial backing from a friend, began manufacturing his more powerful steam engine. Watt also aggressively pursued rivals who attempted to produce even more efficient and powerful steam engines, using his patents to block their innovations. Boldrin and Levine note that during the period between 1775 and 1800, in which Watt's patents were in place, the U.K. added around 750 horsepower of steam engines per year. After Watt's patents expired and other inventors were able to freely improve on his engine, the U.K. added over 4,000 horsepower per year over the next thirty years. Arguably, Watt's defense of his monopoly over the steam engine can be viewed as having set back the full onset of the Industrial Revolution by a quarter century.

The key observation that Boldrin and Levine take away from this and the many other examples they look at in the book is that young innovative companies pursuing the development of new technologies benefit significantly from the absence of IP protection. This view is supported not only by historical evidence, but also by current patent pooling practices in high tech industries, whereby firms who are otherwise competing enter into agreements to inexpensively cross-license patents, knowing that while their innovations will likely benefit competitors, their competitors innovations will also benefit them. Only as an industry matures and the pace of innovation slows do IP protections start to become important in helping to maintain the bottom line, which would seem to contradict the notion that without IP protection, innovation won't occur.

Much of the second part of the book is devoted to showing that for most ideas, the free availability of the idea does not result in a collapse of the market available to the original innovator. In taking on this issue, Boldrin and Levine look at a number of historical ideas whose free use should have been quickly and immediately replicated, given the obvious usefulness of the idea once revealed. One such example is the wheel. Once you see a wheel in action, it is clear what it can do and how it might be useful. And yet, as Boldrin and Levine note, the Mayans were aware of wheels and used them extensively in children's toys, but never came up with useful carts or even wheelbarrows. Agriculture is another remarkably useful idea that took centuries to spread through the human population. Despite the relative simplicity of methods for domesticating both plants and animals for the provision of food, history tells us that agricultural practices spread at the

remarkably slow pace of about a kilometer per year, most likely as practices and ideas were passed from parents to children.

The assumption that good ideas, once communicated, can be cheaply applied to make undeserved profits for copiers also turns out to be suspect. Taking more modern examples, Boldrin and Levine point out that a computer operating system that implements an idea like the Xerox/Macintosh/Windows graphical user interface (GUI) is clearly a good and useful idea, but unless you are trained in computer engineering, actually producing a workable version of the idea is virtually impossible. And even with such training, it takes time to actually implement your own version of the idea and take it to market. So, for such ideas, there will always be significant first-mover advantages to innovating, even without intellectual property protections. Indeed, as Boldrin and Levine note, one reason we see the same graphical interface idea implemented across Unix, Linux, Windows and Apple operating systems is that this idea was developed in a period in which patenting of software was not allowed. Apple (an early mover in implementing a GUI operating system) certainly made money from the idea. Microsoft has also made a fortune on the Windows operating system, despite its significant delay in adopting the actual windowing idea. Obviously, if people can make money from acting commercially on these ideas, it's hard to see where the market is failing us.

Even books, which were the first embodiment of ideas to receive IP protection historically can, in fact, make money without such protection. Boldrin and Levine cite the case of the report of the September 11 Commission. As a U.S. Government document, this report was exempt from copyright protection. The Commission negotiated a deal with the W.W. Norton publishing company that granted Norton the right to publish the authorized version of the report, and to release the published report simultaneously with the electronic release of the report by the Commission. The New York Times, in collaboration with another publisher, St. Martins, describing the Norton deal as a “royalty free windfall,” used the lack of copyright to publish its own version of the report shortly after the initial release of the official web version and Norton’s authorized version. Norton was required, as part of its agreement with the Commission to donate any profits from the deal to charity, and it ended up turning over \$600,000 to selected charities. Industry estimates, however, suggest that Norton in fact earned something approaching \$1 million on the report. Presumably, the New York Times and St. Martins also turned a profit on their unauthorized version. And all of this happened under competition without IP protection.

But, you might be asking yourself, what about something like music, which in digital form can be distributed quite rapidly over the internet without ever compensating the artist who created it? Boldrin and Levine include the following quote from musician Courtney Love about the economics of popular music:

This story is about a bidding-war band that gets a huge deal with a 20 percent royalty rate and a million-dollar advance. (No bidding-war band ever got a 20 percent royalty, but whatever.) ... They spend half a million to record their album. That leaves the band with \$500,000. They pay \$100,000 to their manager for 20

percent commission. They pay \$25,000 each to their lawyer and business manager. That leaves \$350,000 for the four band members to split. After \$170,000 in taxes, there's \$180,000 left. That comes out to \$45,000 per person. That's \$45,000 to live on for a year until the record gets released. The record is a big hit and sells a million copies. So, this band releases two singles and makes two videos. The two videos cost a million dollars to make and 50 percent of the video production costs are recouped out of the band's royalties. The band gets \$200,000 in tour support, which is 100 percent recoupable. The record company spends \$300,000 on independent radio promotion ... which are charged to the band. Since the original million-dollar advance is also recoupable, the band owes \$2 million to the record company. If all of the million records are sold at full price with no discounts or record clubs, the band earns \$2 million in royalties, since their 20 percent royalty works out to \$2 a record. ...

Obviously, under the current business model for the mainstream music industry, the money a popular band can make pays a lot of salaries. But the purpose of copyright protection is not job creation or protection, but the promotion of useful arts and sciences. From the numbers above, if the band were able to produce 10 good songs and sell them to the highest bidder for \$35,000 per song, they would earn the same income as under the current business model. For iTunes alone, recovering the cost of one song would require them to sell 3,500 downloads. Since iTunes sells an estimated 2 million songs per day, they could spend the \$35,000 per song per day and market over 500 new songs a day. It would certainly seem, then, that with judicious screening and niche marketing, iTunes alone would be a viable customer for a business model that involved simple interactions between artists and retailers, without the current intermediation of the record industry. This argument becomes even more compelling when we take account of competition, both from other large companies like Microsoft and Amazon that want to sell music, and companies like Google which are looking at the possibility of giving music away as a way of selling advertising targeted at specific users of their service. Boldrin and Levine also note that the same technology that has made copying and distribution of digitized music files so cheap has also made the process of recording music cheaper by three orders of magnitude. Obviously, this isn't a market that has failed; it's one that is in a transition induced by a new and effective technology for producing and distributing music.

But, what about something like movies which require big up-front investments in production costs? I won't go into detail here for lack of bandwidth, but recommend Boldrin and Levine's comparison of the legitimate motion picture industry, which defends its intellectual property rights vigorously, with the much less savory, but economically viable pornography industry, which typically doesn't get much sympathy over copyright enforcement from the courts. Obviously, if you can make the kind of salary that Harrison Ford can playing Indiana Jones, you'll take that role in a legitimate Jones adventure over a starring role in "Indy Does Dallas." But again, intellectual property protection isn't about job support. It's about creating new and useful arts.

So, let me track back to my initial question: are our children and students really thieves, pirates or otherwise criminal because they download music? From a purely legal standpoint, the answer to this is an obvious yes. From an ethical perspective, though, the answer is far from clear. When I ask this question of my own students, the answer I typically hear is: “No, we aren’t deadbeats. We download because we can’t afford to pay the full price of a CD, particularly when all we want are the 5 good songs. We’re happy to pay for concerts by musicians we like, since they make more money through this venue than they do selling CDs, and we’re happy to be supporting them. We also don’t mind paying what is still a high price per song at iTunes because at least we don’t have to buy all the filler that comes on a typical CD.” While these are primarily economic arguments, the moral kernel in this defense of downloading is that the music industry, because it is effectively a monopoly, provides a deficient product at prices beyond the reach of many music consumers, and compensates the people who actually create the music quite poorly. In the absence of the music industry’s ability to effectively enforce the existing copyright laws, we have a situation in which one moral and economic bad has begotten another. But, as Boldrin and Levine show again and again in their book, this is nothing new. It’s just that, at least for entertainment, the technology of digital computers and the internet has exposed this long-standing moral shortcoming of current intellectual property laws in a particularly stark way.