

## MORAL FOUNDATIONS OF INTELLECTUAL PROPERTY RIGHTS

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Patents and copyrights are among the most conspicuous examples of what is authoritatively classified as *intellectual property*. With equal authority, however, it is also said that nobody can legitimately patent or copyright an *idea*.

There is something of a puzzle here. For if ideas cannot be patented or copyrighted, then in what sense do patents and copyrights secure or protect intellectual property? A moment's reflection on this puzzle only leads to other, morally more significant, perplexities: Would the practice of granting a person proprietary rights to an idea be morally defensible? If intellectual property law does *not* make a person the owner of an idea, then to what do patentees and copyright holders have proprietary claim? And on what basis?

If one listens to what some of the staunchest defenders of private property have had to say about intellectual property, the puzzlement is likely to be exacerbated, not alleviated. On the one side, one might hear that "patents are at the heart and core of property rights . . . once they are destroyed, the destruction of all other rights will follow automatically, as a brief postscript" (Rand 1967). On the other side, one might be told, "Patents . . . invade rather than defend property rights" (Rothbard 1977).

In what follows, I address two issues: First, do patents and copyrights create (or secure) property in ideas? And second, is the practice of assigning patents, copyrights, and other forms of intellectual property morally defensible? And I argue for two theses: First, the intellectual property system cannot be satisfactorily grounded in the principle that a person literally owns, as a matter of natural right, the ideas that he is the first to conceive. And second, underlying, and to some extent shaping, the practice of granting patents, copyrights, and other forms of intellectual property is the need to strike a suitable balance among three important considerations: freedom of thought and expression, incentive to authorship and to technological innovation, and fairness.

### INTELLECTUAL PROPERTY LAW AND THE OWNERSHIP OF IDEAS

#### What Is Owned, If Not Ideas?

Do patents and copyrights bestow ownership of ideas? And if they do not, to what do they give their holders title? Federal law makes it perfectly clear that what is copyrighted is not an idea, but the particular expression that it has been given. Thus, United States Code 17, section 102 reads:

(a) Copyright protection subsists . . . in original works of authorship fixed in any tangible medium of expression . . . (b) In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.

But what about patents? Do they secure property in ideas? To secure a patent one must be able to specify a new, useful, and nonobvious process, machine, manufacture, or composition of matter and to do so in such detail as would enable any person skilled in the relevant "art" or discipline "to make and use the same" (35 U.S.C. sees. 102, 103, 112).

Here the term *process* refers to a method for transforming or reducing a physical substance to a different state or thing; it does not refer either to a method of thinking or of solving intellectual problems or to a method of doing business. Indeed, abstract ideas, mental processes, methods of thinking or of solving intellectual problems—no matter how

new and original they might be—are not proper subject matter for a patent application (*Gottschalk v. Benson*, 409 U.S. 63 [1972]).

In light of all this, it is tempting to suggest that what a person patents, and thereby comes to own, is not simply an idea, but a useful or practical idea. But this theory does not quite fit the phenomenon it is intended to explain. There are two objections to it. First, having a useful idea—even granted that it is not only new but also nonobvious—is not a sufficient basis for holding a patent. Second, patenting, even when one has a sufficient basis for it, does not literally give one ownership of an idea.

**Being the First to Put Forward a Useful Idea Is Not a Sufficient Basis for Holding a Patent** Consider the following dialogue:

"I've just come up with a brilliant idea: I've noticed that snow melts at different rates on different kinds of surfaces. Now, imagine a substance you could spread over the sidewalks so that whenever it snows, the snow melts almost as soon as it falls!"

"What is that substance?"

"I don't know, but as the first person to think up this very clever idea, I'm going to patent it; then I can draw royalties from anybody who does manage to find a substance that does the job I have in mind."

Clearly, if the useful idea—brilliant and original though it may be—concerns the general function or purpose that some (as yet unspecified) device, substance, or process would serve, it does not provide a sufficient basis for holding a patent.

Granted that a person cannot get a patent merely by virtue of being the first to conceive a useful function, one might suppose that contributing new, nonobvious, and useful ideas about how the specified function is to be performed would qualify someone for a patent.

But then consider the following—someone discovers the special theory of relativity. Pondering  $E = mc^2$ , he realizes that it may be possible to derive significant amounts of energy from matter. He suggests that the heaviest, most unstable elements—uranium, for example—are likely to provide the most promising material basis for effecting such a conversion. Though he has practical insights indispensable to the development of an extremely important technology—insights for which others might be more than willing to pay a handsome price—this person does not have a sufficient basis for a patent.

Persons who put forward new and nonobvious ideas indispensable to the development of new and useful technologies are not rewarded by the patent system. Only those who go further and offer specific instructions about how to compound a useful chemical substance, engage in a productive process of manufacture, and so forth are entitled to the prerogatives of a patent holder. Moreover, these instructions must be sufficiently clear and precise to enable persons skilled in the relevant art or discipline to replicate, without further experimentation or invention, what has been specified.

**Even When One Has a Sufficient Basis for a Patent, It Does Not Literally Give One Ownership of an Idea** Imagine that someone has not only envisioned a function to be performed, but has also conceived, and in detail sufficient to enable others in the field to "make and use" the same, something that is capable of performing that function. And suppose he has obtained a patent. The fact remains that anybody has the right to think the thoughts that characterize whichever design, formula, or process he has conceived. Thus, anybody has the right to believe that if certain materials are put together in a certain way one will have something (whether it be a machine, or a manufactured product, or a chemical compound, or what have you) that is capable of performing the designated function. Nobody needs the permission of the inventor either to hold such beliefs or to discuss them with others. Thus someone who can specify a new, useful, and nonobvious machine, process of manufacture, or formula can obtain the right to exclude others from making, using, or selling anything that meets that specification. But he cannot prevent them from thinking about, discussing, and otherwise deriving inspiration from the practical insights that underlie his invention.

To sum up, what qualifies a person for a patent is not that he has an idea—even a useful idea—but that he has a useful idea of a highly specific and practicable sort. That is, it is the design for a machine or mechanism, the formula for a composition of matter, or the process for the transformation and reduction of a physical substance to a different state or thing. And what he comes to own, or indeed monopolize, is not the idea as such but, for a limited period of time, the right to "make, use, or sell" that which answers to it.

## **Freedom of Thought and Speech as a Constraint on Intellectual Property Rights**

There is a parallel here between copyright and patent. Just as the person who holds a copyright does not have a proprietary right to an idea, but to a particular tangible expression of it, so it might be said that the patent holder does not have proprietary claim to the useful ideas behind his invention, but rather, to their actual practical application.

It would be a mistake to suppose that this observation holds only idle intellectual interest. For underlying the fact that ideas as such can be neither patented nor copyrighted is a fundamental moral concern: the rules of the intellectual property system must not be formulated in ways that might jeopardize freedom of thought and speech.

Other important features of intellectual property law attest to this same concern. Thus, patentability does not extend to scientific laws or to methods for solving mathematical problems. As the Supreme Court has ruled, these are the "basic tools" of scientific and technological research and cannot be preempted by anybody (*Gottschalk v. Benson* [1972]). Also relevant to the present point is the fact that the specification of a granted invention must be placed in the public record, in "full, clear, concise and exact terms" (35 U.S.C. sec. 112). In virtue of this, others have the opportunity to assimilate and draw inspiration from the inventor's insights.

Turning to the laws governing copyright, one finds that the rights of the copyright holder are delimited by the "fair use" doctrine under which a work may be reproduced "for such purposes as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research" without infringing the copyright holder's proprietary rights (17 U.S.C. sec. 107). Nor is it an infringement of copyright "for a library or archives, or any of its employees acting within the scope of their employment, to reproduce no more than one copy or phonorecord" provided that (1) it is done "without any purpose of direct or indirect commercial advantage"; (2) the collections of the library or archive are open to the general public or to the body of scholars in the relevant field; and (3) a notice of copyright is included (17 U.S.C. sec. 108).

To make sense of such provisions and qualifications it is plausible to suggest that the intellectual property system has been so designed that, whatever the purpose to be served by granting authors and inventors copyrights and patents, the basic freedom to think about and to discuss the ideas and insights that underlie their writings and inventions needs to be protected.

## **JUSTIFICATIONS FOR INTELLECTUAL PROPERTY RIGHTS**

As has been shown, the laws of patent and of copyright are generally formulated within a framework that is intended to preserve basic freedom of thought and expression. But why should intellectual property rights be assigned and protected in the first place? In what follows, I will first consider the question of whether the practice of granting patent rights is morally defensible, and if so, on what ground. Then, after noting an important contrast between the way in which the laws of copyright and of patent deal with the question of independently arrived at but significantly similar achievements, I will explore the question of whether the considerations that seem to provide the most significant support for the patent system support the copyright system as well.

### **A Libertarian Argument**

One may begin by recalling the somewhat vague but provisionally appealing principle that people should be free to do as they choose so long as they do not interfere in other people's lives. Could the inventor's right to patent his invention be a simple exercise of this right to freedom? Whatever the merit of the principle, it is simply too weak to yield the desired conclusion.

Thus, consider the following: Someone invents the wheel and starts wheeling things around. Others get the idea and, after duly acknowledging and praising the person who is the source of their inspiration, make wheels of their own for their own

personal use. To be sure, when the inventor makes wheels and starts wheeling things around, he does not interfere in the lives of others or limit their liberty in any way that could provide legitimate ground for complaint. But the same could be said of the others: when they make wheels for their own personal use, they are not interfering in his life or limiting his liberty to make and to use wheels.

It is tempting to object that their use of the idea does constitute an interference in his life. After all, they took the idea from him without his permission. But this objection is subject to the following line of criticism. When someone takes my car without my permission and drives it around, then all the while he is driving around, he deprives me of the personal use of it. But when someone takes my idea and—after acknowledging me as the source of his inspiration—makes use of it in his personal life, he does not thereby deprive me of the liberty to do the same, that is, to make use of the idea in my own personal life.

Indeed, there are at least three senses in which a person who gets an idea from me need not be taking it away from me: (1) I can still think it; (2) I can still enjoy whatever praise or admiration others might be disposed to give to me as the person who thought of it first; and (3) I can still use it, to all the same personal advantage, in my own personal life. Here it may be objected that if others are at liberty to use the idea without his permission, then the person who came up with the idea first will not make so much money as he would have made otherwise. So in putting it to one's personal use, one does take something away from the other person. One deprives him of something that is rightfully his.

But note that "so much money as he would have made otherwise" here signifies so much money as he would have made if he had had the authority to decide who shall use the idea and on what terms—in short, if he had enjoyed monopoly control.

Thus, to decide whether the use that other people make of an idea has deprived the person who first thought of it of something that is rightfully his, one has to decide whether the first to think of it is entitled to exclude anyone else from using the idea without his permission. Such an entitlement is not a mere liberty, but a power or prerogative: to have it is to have a measure of authority or control over the lives of others. It may be a perfectly legitimate authority, but appealing to personal freedom is not going to be sufficient to legitimize it. One must appeal to other (presumably stronger) considerations.

### **The Appeal to a Natural, Inherent Property Right in the Products of One's Own Mind**

Consider then the suggestion that the right to patent is not simply a matter of freedom, but an implication of the principle that a person owns the products of his own mind. On at least one reading, this principle is certainly very appealing. After all, an idea that is yours (that is, that you have thought up on your own) ought to be yours; you should have the right to think it and to put it to any use that does not violate anybody else's rights. (This last qualification applies to rights in general: my right to my knife does not give me the right to put it in your chest.) But those who argue for patent rights need a stronger argument to help them establish a stronger conclusion. They need to argue that a person not only owns (nonexclusively) the application of any useful idea that is the product of his own mind but also has, if he is the first to think up the idea and reduce it to practice, the right to exclude others from using it.

To establish this conclusion one might reason along the following lines: In giving a person exclusive right to the application of an idea that originated with him, no one else's position is worsened. Since the invention would not exist if not for him, it is and ought to be entirely his.

Perhaps the first thing to note is that if the patent system is really to be based on the principle that a person has a natural right to monopolize the application of a useful idea that he is the first to conceive, then it ought to be possible to obtain exclusive right to the application of more general ideas—for example, the idea of using electricity to provide indoor illumination, or the idea of converting unstable elements such as uranium into nuclear energy. As I have already noted, however, there are many important ideas of great practical significance whose application is not, at least under the present system, made the

exclusive right of their first discoverers.

This observation leads to another, more damaging, one: If the right to patent is grounded in the principle that there is a natural right to the exclusive use of the original products of one's own mind, then there seems to be no reason that that right should not also extend (*a*) to theoretical as well as to practical ideas, and (*b*) to their public discussion as well as to their technological application. In short, the putative right, and the proposed line of argument based on it, are difficult to reconcile with freedom of thought and expression. What is needed is a coherent account of why, even though people have such a right, it applies only to certain products of their mental activity—specific inventions, particular works of authorship—rather than to all such mental products. But even if such an account could be constructed, the approach in question would still be highly questionable on at least two other counts.

First, it is implausible to suppose that someone who is the first to think up a useful idea has conceived something that would not have come into existence otherwise. Brilliant though it was, the idea of the wheel would have independently occurred to others. Proof of this is provided by the fact that the idea of the wheel did occur, at different times and in different places, to peoples who had no contact, whether direct or indirect, with one another. And of course, the same can be said, with better documentation, about more recent technological advances. But the patent system gives the first discoverer a right to exclude—for the duration of the patent term—even those who, operating independently, make the same discovery shortly afterward. Presumably, these independent inventors are equally entitled to the products of their own minds. Thus, the putative right to appropriate the product of one's own mind does not support, but actually tells against, the policy of giving exclusive rights to first inventors.

Of course, it is not always entirely clear just when a technological development would have occurred in the absence of its actual first discoverer. This might suggest something like the following line of argument: The policy of granting a seventeen-year patent term is an—admittedly often inaccurate—approximation to the period of time it would have taken others to come up with the invention on their own. Letting the patent pass into the public domain after that period of time is a way of recognizing the fact that sooner or later the continued enjoyment of exclusive rights would indeed constitute a wrongful worsening of the situation of at least some (not necessarily identifiable) individuals (compare Nozick 1974).

But if this reasoning were indeed appropriate, then it would hardly justify anything like the present system. This is because nearly contemporaneous, independent inventors could not be rightly excluded even for seventeen years. Furthermore, in cases in which the public disclosure of an invention occurs soon enough to put an end to further independent research, the policy of assigning the very same fixed term of exclusive rights, without regard to the particular invention or the general field in which it occurred, would be unjustly crude. Different areas of research and development will exhibit demonstrably different rates of overall progress. Even within a given field, progress on a particular technical problem will vary according to the stage of the field's development and the intensity of effort devoted to the problem. The principle that people have exclusive right to the product of their own mental activity, just so long as others are not made worse off than they would have been in the absence of that mental activity, would call upon society to make a scrupulous effort to obtain the best available evidence on such matters and to set up the rules of the patent system in a way that more adequately reflects these variations.

Second, whoever is the first to think up some important idea, whether practical or theoretical, he is almost certainly not drawing upon his own mental resources only. According to ancient legend, Athena sprang full grown from the head of Zeus. But human beings do not spring full grown from either a human or a divine parent. Certainly, they add to and enrich the life of the community in which they live, but their capacity to do so, as well as the more particular ways in which they do it, are made possible by a shared and historically transmitted heritage of language, culture, experience, and craft. When hailed as a great and original genius, Isaac Newton responded that he was, after all, only standing "on the shoulders of giants." Indeed, even in making this admirably humble remark, Newton was standing on the shoulders of others; the phrase was not original with him but had a long and illustrious history of its own (Merton 1967).

Thus, from a putative right to the products of one's own mental activity it does not follow that anybody can rightly claim exclusive control over a useful invention

that he is the first to conceive. For nobody can rightly claim that a useful invention, or indeed any intellectual achievement, is fully and solely the product of his own mental activity.

### **Right to Privacy and Freedom of Contract as the Basis for Patent Rights**

As I have already noted, an important feature of the patent system is that the applicant must make a disclosure of his innovation in such detail as would be sufficient to enable "any person skilled in the relevant art to make and use the same." This may suggest something like the following line of argument.

The right to privacy implies that an inventor has the right not to disclose his invention. Patent right—the right to exclusive control over the production and distribution of the invention—arises as part of a contractual agreement between the inventor and the government. The inventor discloses his invention in return for being granted a (limited) monopoly privilege. In virtue of this bargain between society and the inventor, the inventor comes to have the right to exclude others from making, using, and selling the invention in question. On this view, patent rights are not basic rights but they are the legitimate product of the exercise of two other rights: the right to privacy (which implies the right not to disclose any details about one's invention) and the right to make contracts.

A crucial objection to this line of argument begins with the observation that freedom of contract is not unlimited: a person has no right to make a "hit" contract for example. Thus, to decide whether the would-be patent holder can legitimately demand that nobody else—not even near-contemporaneous independent inventors—be allowed to make, use, or sell whatever is in question, one needs to know if he has the right to make such a demand. If what is demanded is illegitimate, then freedom of contract will not somehow bestow legitimacy upon the corresponding concession. Thus, to show that monopoly privilege is a legitimate demand, one cannot merely appeal to the right to privacy and the right to make a contract. The relatively strong proprietary right involved in holding a patent can only be justified by appeal to some other, presumably stronger, consideration.

### **Patent Right as a Matter of Just Desert**

In order to provide the added justificatory strength, it is tempting to invoke the notion of just desert. On this approach, the power or prerogative that is afforded by a patent is legitimate insofar as it is deserved. Deserved in virtue of what? Possible candidates are effort and accomplishment. In either version, the principle that people ought to be rewarded according to what they deserve would prescribe more than it seems reasonable to do.

A principle of desert for effort would imply that unsuccessful researchers who nevertheless have expended a great deal of effort and money in an earnest attempt to come up with something useful to the public, and are therefore very deserving, ought to be rewarded. But the patent system does nothing of the kind. Nor does it seem plausible to suppose that it should. A principle of desert for successful accomplishment would imply that independently successful inventors also ought to be rewarded.

Whatever the basis for desert, there is the further problem of fixing the size of the deserved reward. How much of a reward does an innovator deserve (whether for his effort or accomplishment)? It is difficult to believe that, regardless of effort or accomplishment, the innovator's deserved reward is whatever income he can secure through holding and exercising a seventeen-year monopoly.

Finally, and more generally, it is far from clear that desert is an appropriate basis for the design of legal and political arrangements. What people deserve is often quite properly contrasted with the (institutional) entitlements that they (morally) ought to have. A baseball team may rightfully lay claim to a victory that was really deserved by the other team. Why the contrast? If both teams play fairly and in full observance of the rules, then the team that actually wins is the rightful victor. But if the other team both has the greater talent and has made the greater effort then it might be said to be more deserving of a victory. Why then did it lose? "Bad luck," one might say. Of course, who is to decide which team is more talented or has made the greater effort?

An institutional arrangement that superimposed upon its system of announced rules and regulations an authority with the discretion to determine who is really most deserving after all, and to award victory accordingly, would not seem morally defensible. The discretion in question would be too susceptible to arbitrary or discriminatory exercise. It is not that the notion of desert has no meaning. Rather, if one is to think of it as a principle of institutional design, it seems more appropriate for God or some other supposedly incorruptible and omniscient being than for ordinary mortals.

From these reflections, this point emerges: no plausible conception of what people deserve and why they deserve it would lead to anything like the present patent system. It is, in any event, questionable whether the notion of desert ought to play a significant role in the design of legal and political arrangements.

### **Progress in Technology: A Forward-Looking Defense of Patent Rights**

Perhaps the most plausible argument for the special authority that is vested in patent holders turns on the long-term effects of the patent system upon research and development efforts. The suggestion is that, as an incentive to greater technological progress, the normal condition of free and open competition may need to be, from time to time and for a limited period of time, suspended.

In this spirit, the U.S. Constitution in article 1, section 8 does not call upon Congress to make laws protecting a person's natural proprietary right to the products of his own mind. Instead, as is well known, the Constitution authorizes Congress to enact laws whose purpose is "to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries." The basic philosophical point is elaborated by the Supreme Court:

The patent monopoly was not designed to secure to the inventor his natural right in his discoveries. Rather, it was a reward, an inducement, to bring forth new knowledge. The grant of an exclusive right to an invention was the creation of society—at odds with the inherent free nature of disclosed ideas—and was not to be freely given. Only inventions and discoveries which furthered human knowledge, and were new and useful, justified the special inducement of a limited private monopoly. (*Graham v. John Deere Co.*, 383 U.S. 1, 9 [1966])

Thus the patent system emerges as a device for getting the best of both worlds. Monopoly privilege serves as an initial incentive to innovation; its limited duration eventually allows for the usual effect of free and open competition. Moreover, all this takes place within a framework that preserves the basic freedom of thought and speech so essential to the long-term progress of both science and technology.

There is a good deal of common sense in this line of argument. Those who engage in research and development often have to expend significant amounts of time, energy, and money without much assurance of success. Moreover, those who do succeed face the prospect of being undersold by competitors who are able to discern and duplicate what is usefully innovative without having to incur comparable research and development expenses.

In virtue of these two difficulties—the greater uncertainty of success and the relative ease of free riding—research and development efforts are likely to fall short of what the long-term health and well-being of society would seem to warrant. The patent system can be viewed as a device for correcting, at least to some extent, for these difficulties. Does it correct enough, or perhaps too much? Some would claim that the patent system overstimulates technological innovation and fosters wasteful duplication of research effort. Others would argue that the incentive it provides is not strong enough.

To evaluate such complaints one needs to be able to measure the impact of the patent system upon the rate of technological development. The state of affairs that would have obtained were patent rights not actually recognized has to be evaluated against the state of affairs that does obtain in virtue of them. It is not easy to verify or validate this rather complicated counterfactual comparison. Moreover, one needs to know more about what rate of technological development is supposed to be optimal and why. It is one thing to maintain that under the normal operation of market forces, research and development efforts would surely be inadequate, yet quite another to claim that one can specify with any

precision an optimum level of such effort.

Now, there may well be cases in which—without knowing just what level of research would be optimal—one can nevertheless be reasonably confident that more research than is presently being undertaken would be desirable. This hardly constitutes a fatal criticism of the practice of recognizing patent rights as such. If greater incentive to research and development is needed, it can generally be achieved through modifications of the patent system itself (for example, extending the life of the patent, granting the patentee the right to make licensing agreements that bar challenges to the legal validity of the patent) or through additional mechanisms (government research grants, prizes) that can operate in conjunction with the patent system.

Of course, in evaluating an institutional design or public policy, one must look not only at the prospective benefits but at the costs as well. Competition in the marketplace is generally regarded as a spur to higher quality of production at lower prices. Monopoly is thought to be counterproductive of these good effects. Thus, whatever contribution the patent system makes to the progress of technology needs to be weighed against the reduction of quality and the increase in price that are the usual consequences of monopoly privilege.

In addition, it seems likely that the supposed benefit of having the patent system—namely, incentive to innovation—will vary considerably along with the nature of the technology. Securing a patent tends to be a prolonged, costly, and uncertain process; once a patent has been obtained, the effort to protect it through infringement suits can also be costly and prolonged. Thus, for fields in which there is rapid technological development, patent rights may bring too little too late to provide any real incentive. In these areas, simply getting there first may be its own, and the most significant, reward.

Even so, the rate of technological innovation has certainly been greatest in those social systems which do recognize intellectual property rights. It has yet to be demonstrated that other factors—cultural rather than legal—have played the more significant role. In the absence of such a demonstration, it seems highly unlikely that, even without a measure of intellectual property protection, technological progress would have been just as great.

Moreover, the alleged conflict between providing a healthy incentive to innovation and maintaining a vigorously competitive marketplace is not so clearcut as might appear. Once again, much depends on the particular field or industry. There are areas in which significant research and development can be meaningfully undertaken by relatively new and smaller firms. Failure to provide some measure of exclusivity to their accomplishments may only ensure that such firms have little chance of surviving, no matter how innovative they are. Without such protection, the Goliaths of the industry could readily assimilate any commercially viable innovations and bring them to market at prices that the smaller firms cannot match. In some fields, then, limited monopoly protection may not only spur innovation, but actually help the Davids to establish themselves against the Goliaths. The net result, of course, would be to widen and invigorate, rather than to weaken, the competitive field.

On the other hand, there are fields in which technological change comes mainly from very large firms that have invested heavily in research and development too costly and complicated for newer and smaller firms to handle. In these areas, there may be little chance for the field of competitors to widen—unless other firms do have the guaranteed opportunity to bring innovations to market, while paying reasonable royalties to the innovating firm. An obvious problem here is to determine a reasonable royalty rate. But if some policy of this sort could be put into practice, it might represent an appropriate balance between the need to encourage innovation and the need to keep markets in new technologies reasonably competitive.

### **The Appeal to Fairness**

A useful invention can make a positive contribution to the good of others. To arrive at it, the inventor(s) may have to expend a considerable amount of time, energy, and money. Sometimes, other people come along and—being in a position to imitate, duplicate, or reverse engineer the invention without sustaining comparable research and development costs—produce the same, or an obviously similar, product at a lower price. By free riding on the efforts of the original discoverer, they achieve a superior competitive position. It seems unfair that the persons whose efforts have

helped to make a technological benefit possible are, by very reason of those efforts, placed at a significant competitive disadvantage.

Of course, as has already been seen, free riding can be worrisome—not because it is inherently unfair, but (from a more purely forward-looking or consequentialist perspective) in virtue of how it weakens the incentive to engage in innovative research and development in the first place. An interesting question, then, is the extent to which free riding can be regarded as objectionable in its own right, quite apart from its impact upon the rate of technological development. Grant, for the sake of argument, that free riding of this sort is, in some sense, unfair; one may still well wonder what would be fair?

Fairness might seem to imply that, at the very least, the persons who have shouldered the burden of making a benefit to others possible ought to receive adequate compensation. This raises the obvious question, When is compensation adequate? Unfortunately, the obvious answer—When it is enough to cover the costs of research and development—is not without difficulties of its own. Thus, it is perfectly conceivable that the time, money, and effort actually expended were excessive and that a more efficiently managed research and development project would have yielded the same result at lower cost. Alternatively, it is possible that the benefit to others—though real—is not great enough to have warranted the heavy expense of (even the most efficiently undertaken) research and development. So from the mere fact that someone has managed to produce a technological result that is beneficial to others, it cannot be inferred that he or she ought to receive a monetary return that completely covers his original research and development costs.

It might be thought that what fairness requires is not that inventors be compensated for their efforts but rewarded in proportion to the value of the contribution those efforts have made to the well-being of others. But what is the value of a given contribution? And what would count as an appropriate reward? Providing a satisfactory account of such matters would seem to be an even harder task than working out a theory of adequate compensation.

Instead of trying to answer these questions with any precision, or even at all, a plausible route to take might be to protect the innovator against blatant free riding but then to let his financial return be determined by the forces of the marketplace. He

would accept the outcome whether those forces accurately reflect the long-term value of his contribution to society and whether this original investment is recovered. Taking this route avoids the unpleasant and illiberal prospect of giving someone the power and discretion to sit in Washington and impose upon the community of innovators and upon society as a whole his own particular view of what has value.

On this theory, the intellectual property system results from an attempt to achieve a measure of fairness within the limits of a safely decentralized economy. In essence, inventors are thought to be entitled—not to compensation or reward—but rather, to a fair chance to achieve a market determined return on their investment. ...

## **CONCLUDING REMARKS**

I began by asking whether the intellectual property system as we know it confers ownership of ideas. In arriving at a negative answer, I also came to the realization that an important constraint operating upon the design of the intellectual property system is the concern to preserve basic freedom of thought and expression. Patents and copyrights give people special rights, not to ideas as such, but to their practical application and to their particular expression. I then investigated possible justifications for instituting the rules of the patent system. Some arguments (from personal liberty, from the right to privacy together with the right to make contracts) proved too little. Other arguments (from an alleged right to the products of one's own mental activity, or from just desert) would, if they were to work, prove far too much. They also, as it happened, proved to be inherently confused and implausible. This left two reasonably plausible and relevant concerns: to promote technological progress and to prevent unfair free riding.

## **Acknowledgment**

I received valuable criticism on earlier versions of this essay from the Cal Tech Philosophy Discussion Groups, the Society for Philosophy and Public Policy in New York, and in particular, Stefan Mengelberg, a member of the latter group.

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