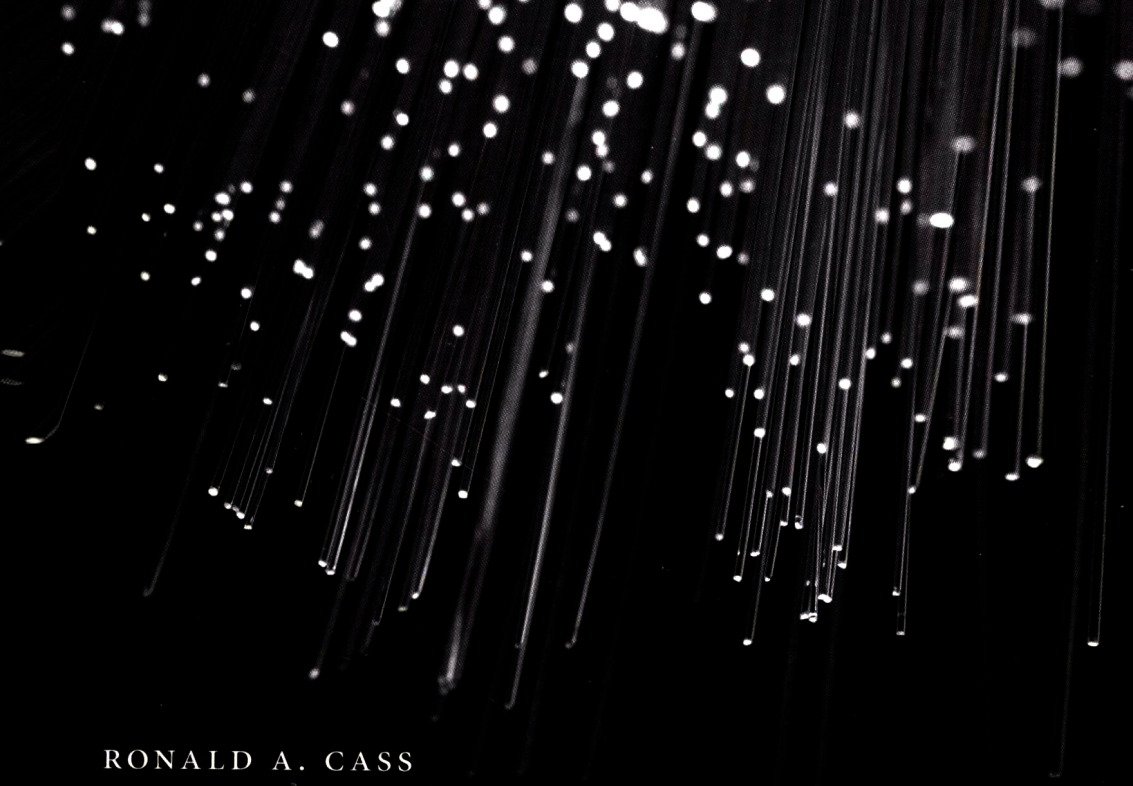

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Laws *of* Creation

PROPERTY RIGHTS IN THE WORLD OF IDEAS

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Contents

1

Ideas, Property, and Prosperity

Ideas

Ideas are the engines of progress and prosperity. The first man to realize how to make fire and to use it to cook and provide warmth, the first to domesticate animals, the first to use a wheel to move loads across space, gave their societies an advantage in the race to survive.

Hoary examples make ready reminders of the power of ideas, but modern life abounds in illustrations of the way ideas change our world. Consider, for example, that life expectancy at the end of the twentieth century was more than one-and-a-half times what it was at that century's outset.[1] Why? In no small measure, that change reflects the contributions of penicillin and other antibiotics; vaccines to combat smallpox, measles, mumps, polio, and a myriad of other diseases; and advances in agriculture, food preservation, and transportation. Along with the sea change in medical care, better understanding of hygiene, better tools for controlling insects that carry malaria and encephalitis, widespread pasteurization of milk, and refrigeration of food took us from a U.S. childhood mortality rate of thirty per thousand in 1900 to a childhood mortality rate of less than two per thousand in 2000.[2]

Progress hasn't been limited to matters of health. Another example is the revolution in the way we communicate, in its speed, cost, and reliability. Communication that was uncertain a century ago has become reliable and instantaneous, allowing people to work together across great distances, the cornerstone on which much of international commerce rests. Where letters traveling by ship and train or pony once took weeks or months to arrive (frequently reaching their destination after the events they were addressing had passed), now discussions can be had across the globe in "real time."

The ability to speak at a distance in real time, of course, isn't so new. Alexander Graham Bell spoke to his assistant, Thomas Watson, over his invention, the telephone, and filed his patent in February 1876.[3] Yet this nineteenth-century invention still was a rare item for most of the world's population three-quarters of the way through the twentieth century. Even though satellites and undersea cables provided connections across long distances, the high cost of stringing wires to end-users kept basic telephone service from more than half the people on the planet as late as the 1980s.[4] But the development and diffusion of cellular telephone technologies and of Internet telephony (along with the more common keyboard communication over the Internet) at the end of the twentieth and beginning of the twenty-first century dramatically altered the landscape. Today, people in China can talk over the Internet to people in Chartres or Chicago, whenever they want and at virtually no cost.

Promoting Ideas

The ideas that tacked an extra thirty years onto our lives in the past one hundred years, that have made it possible to get more goods and services more cheaply and to share information and experiences instantly, did not come to everyone on equal terms. Some societies generate more ideas and receive the fruits of those ideas more readily than others. Legal origins and existing legal institutions may have played a role in this.

The role of law in encouraging development, diffusion, and exploitation of ideas is the core focus of this book. How legal institutions (i.e., law and its enforcement) encourage the development of ideas, their dissemination, and their best use are topics that could each take an entire volume. Our goal is not to provide an exhaustive treatment of any one of these matters, but to give readers an overview of the field. In the short compass we have, we describe the basic understanding on these issues, the legal rules that exist, the arguments about them, and the policies we think best serve society's interests.

Property Rights

We start with a concept that is implicated in almost any endeavor that involves an investment of ingenuity, time, and energy in creating something

or in regulating its use. It is the concept of property. As we explain later, this is a controversial starting point for the world of ideas.

Property has been part of the bedrock of civilization from ancient times. Respect for property is demanded by ancient religious commandments, social compacts, and constitutions. Its importance to our lives and to progress is expounded by philosophers, economists, and social historians. John Locke famously proposed a theory of property as a natural right that has given rise to a cottage industry in scholarly discourse.[5]

The case for property rights also has an instrumental base. Casual observers of the human condition long have noted the difference secure property rights make in motivating individual initiative. Contemporaneous with the drafting of the American Constitution, an Englishman, Arthur Young, reflecting on his travels in France declared:

> Give a man the secure possession of a bleak rock, and he will turn it into a garden; give him a nine years' lease of a garden, and he will convert it into a desert. . . . The magic of property turns sand into gold.[6]

Yet recognition of the central role of property in our lives has coexisted with ongoing skepticism about the value and even the legitimacy of the concept of private property. The most extreme example of that skepticism was Proudhon's assertion that "property is theft."[7] That sentiment in some measure is shared by an array of academicians and pundits.[8] Although virtually everyone in Western democracies—and most other societies as well—today acknowledges the central role of property, academic and public policy discourse typically makes the acknowledgment a qualified one.

Three distinct themes run through the skepticism about private property: moral desert, egalitarianism, and socialist or welfarist instrumentalism. The first of these themes urges that possessors of property often have no moral claim to the property, having inherited it through no work of their own or having gained it by virtue of luck rather than because the possessor was especially clever or industrious.[9] The second theme is that, no matter what explains how people obtain property in the first place, there is a substantial value to be served by distributing it equally across a population.[10] The third theme is that as a practical matter centralized institutions can develop

resources and direct them to their best—socially preferred—uses better than the market forces that are corollaries of private property rights.[11]

While these themes reflect personal value judgments, they also build on empirical assumptions. That is especially true of the third, instrumentalist, theme, which runs headlong into the instrumentalist case for property rights. One of the arguments for property rights is the assertion that the complex of activities associated with property—giving individuals control over property, letting them determine what uses are best, letting individuals exchange rights to use and control property in line with their own estimations of value—increases society's overall wealth and individuals' overall well-being. That is an empirical assertion, and it is at odds with assumptions behind the instrumentalist objection to property rights.

The empirical assumptions entwined in the instrumentalist challenge to private property rights encompass the supposition that central planning, scientifically informed, can avoid the costly errors that markets generate.[12] Evidence of such market errors is found in stock market crashes and "wasteful competition" that spends resources on production that cannot be sold for what it costs and that brings about frequent bankruptcy of businesses. The stock market crash of 2008 has generated a fresh round of arguments that markets driven by individual decisions typically fail.[13] For some writers, this evidence points to the superiority of a system in which the government would direct resources to their best uses instead of relying on individual decision-making.

The claim that central planning enjoys an instrumental advantage over private property and individual decision-making can be supported by references to deep-seated human inclinations to advance self-interest. One key concept in the litany of behaviors motivated by self-interest is "free riding," the instinct to get something for nothing by taking advantage of the investments of others, or by not investing where investment is necessary to maintain a resource.[14] Some of the best-known illustrations of the free-riding phenomenon travel under the label "the tragedy of the commons." These writings explore the ways in which commonly held resources—resources without well-defined individual property rights—tend to be overexploited.[15] Consider two prototypical examples: overgrazing and overfishing. Allowing cattle to roam freely across pastures provides no incentive to replenish the pastures and thereby ensure a sufficient food supply to sustain the population

of cattle. Similarly, overfishing depletes stocks of fish in oceans and rivers beyond the point where the fish population is self-sustaining, ultimately putting all the fishermen out of business. Although everyone knows that failure to curb overgrazing or overfishing inevitably kills the proverbial golden goose, it happens repeatedly in settings where no one owns the goose.

Property Rights versus Collective Control

Different legal institutions offer the theoretical possibility of correcting problems such as overfishing. Perhaps no one institution is provably best, a priori, in all settings. That said, in an array of circumstances the property rights system (and market interactions based on those rights) dominates its primary alternative of collective decision-making through centralized authority.

The skeptical view[16] toward allocations generated under free markets and property rights often builds on visions of unbiased government decision-making and evidence that markets are imperfect. It downplays the evidence that casts doubt on the capacity of centralized institutions to access the information necessary to harness individuals' interests.[17]

After the fall of the Soviet Union, however, the consensus at the most abstract level is that private property rights and individual judgments executed through markets prove superior to central decision-making at promoting the development and preservation of property. Although there were many examples of the different incentives created by collective and private ownership, probably the single best illustration was a striking disparity in agricultural productivity: toward the end of the Soviet era, the small amount of land available for individual farmers to produce goods for their own account—less than three percent of the land used for agriculture—generated more than half the produce consumed in the nation.[18]

Of course, the conclusion that centralized ownership of resources is generally inferior to a system of private property and markets does not end the debate over property rights. Many writers who acknowledge some role for private property also see in numerous arenas a benefit to government regulation that has the hallmarks of central planning.[19] Commentators, for example, point to the plight of America's "unregulated" (by which they mean more open to competitive entry than was historically the case) passenger airline industry as an example of the problems that come with reliance on markets

rather than regulation.[20] More recently, the standard reference for the risks of unregulated markets has been the financial industry, despite the fact that virtually all aspects of the industry are heavily regulated—and much of the responsibility for the 2008–09 financial crisis traces to regulation-induced mismatches in information and incentives.[21]

The more fine-grained arguments for government regulation in particular instances cannot be rejected on the same basis as the broader contentions in support of general collective ownership and control of property. As we explain in Chapter 2, instrumentalist arguments for private property rights do not establish any distinct set of rights as best for all circumstances, nor do they prove that no central authority can improve a society's lot by means that limit individual property owners' rights to do as they wish. Yet, in looking for starting points, not all-or-nothing conclusions, the basic case for property rights provides a presumptive origin or default position for analysis of specific interventions.

Intellectual Property

Among their other benefits, property rights provide the standard mechanism for aligning individual interests and incentives with social value. Because of this, some scholars and commentators assume that the same system that works for tangible property should provide the template for the world of ideas. We view this as a reasonable starting point, but it has become increasingly controversial.

Authors and inventors long have enjoyed property rights in their works, rights against the rest of the world to control the reproduction of creative expression and useful inventions. Although there are different histories for these rights and varied explanations for them, for at least two and a quarter centuries rights to control the fruits of an idea have been explained as serving the same instrumental ends as other property rights. Thus, for example, the U.S. Constitution expressly grounds these rights in the goal of promoting creative expression and invention. Article I, Section 8 of the Constitution empowers Congress "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 intuition behind the grant of such rights in the United States and other common-law nations[22] is simple: if property rights generally increase incentives to invest in discovering, caring for, and exploiting things, they should also increase the incentives to invest in discovering and using ideas. Admittedly, there is not a lot of rigorous learning about what prompts discoveries, especially the most important discoveries, or the creation of expressive works. Some scholars opine that money is not a prime motivation for creative energy, and some even suggest the possibility that the prospect of financial gain can reduce such investment.[23]

Acknowledging the limited state of our knowledge does not imply doubt about the soundness of the intuition behind intellectual property rights. Surely, money does not explain everything. The eccentric inventor, driven to invent and never thinking of personal gain, may have a "Eureka" moment, providing grist for storytelling. But the common human experience is that the prospect of increased wealth does, indeed, generate investment of time, energy, and creative thought. The pharmaceutical industry, which pours millions of dollars into research to produce new drugs, would not make the same investments if it faced the prospect of lower financial returns.[24]

While it may be true that some of the most successful inventors did not appear to be motivated by money, it is a mistake to conclude from that observation that there is no link between the prospect of financial reward and innovation. Probably the majority of researchers employed by pharmaceutical companies are not thinking about money when they go into their laboratories. But if there were no financial return to the products produced by their companies, how long do you think they would remain employed as researchers? Consider, for example, Maurice Hilleman, who developed nearly three dozen vaccines during his career at Merck, vaccines that save more than one million lives worldwide each year. Hilleman never showed an interest in financial rewards, and indeed the vaccine market has never been considered profitable in comparison to standard drugs.[25] Still, it was the stream of revenue secured by Merck's patents that allowed the firm to support Hilleman as he produced one life-saving vaccine after another. It is a profound mistake to think that simply because geniuses of Hilleman's stature often appear not to be motivated by financial reward that financial reward is not a crucial ingredient to creating the conditions under which their work can be accomplished.

The real question is not whether intellectual property rights, like other property rights, call forth investments that raise the stock of socially valuable inventions and creative expressions. On that margin, the world of ideas and the world of tangible things are the same. The serious question is what sort of rights will call forth the optimal amount and type of investment, and what price will be paid by society as a result. The answer in the physical world typically is that owners have rights to sell, rent, use, reshape, divide, or otherwise control the disposition of the things they own, subject only to regulations—such as nuisance law—designed to prevent owners from imposing on others.

Plainly, the world of ideas is not identical to the physical world. The fact that ideas are not physical means that staking claim to ideas is potentially more difficult than staking claim to property, as it cannot be secured through possession, a common mechanism for securing rights in an array of tangible things. This may be a reason to be cautious about creating property rights in ideas, as it alters the calculation of costs and benefits from such rights. The absence of a specific physical location for intangible property, however, turns out to be less important than it first seems, as ownership rights in many types of physical property are secured in ways quite similar to the means for securing rights for ideas.[26] Land ownership registration systems, for example, are more efficient mechanisms for determining rights in real property than physical examination of the land could be. The same holds true for automobile title systems and other record-keeping schemes that permit greater certainty and remote access to information about ownership of tangible goods. In many cases, similar impediments exist to determining ownership of tangible and intangible property, and similar mechanisms can be crafted to lower those hurdles.

A more important distinction is that possession of ideas is nonrivalrous. Unlike physical property, an idea can be possessed and used simultaneously by many people without its use by one person interfering with its use by another. Thomas Jefferson's observation on this point remains a classic statement:

> [An idea's] peculiar character . . . is that no one possesses the less, because every other possesses the whole of it. He who receives an idea from me, receives instruction himself without lessening mine; as he who lights his taper at mine, receives light without darkening me.[27]

The observation is, as a generality, sound, though there are some important qualifications. But what follows from it? Jefferson did not argue against property rights for ideas on the ground that ideas could be shared without the costs associated with attempts to use physical property simultaneously. He commented that rights to the fruits of one's ideas could indeed be supported as a spur to the pursuit of ideas, but he did not suppose that there could be a *natural right* to property in ideas. His remarks, in other words, went to the nature of the property right, not to its existence.

Other writers have gone where Jefferson would not, arguing that there is no case to be made for property rights in ideas at all. Richard Stallman urges that it is morally wrong to protect software as property, and more generally that intellectual property should be regarded as something quite different from—and not analogous to—tangible property.[28] He sees the award of intellectual property rights in ideas and their expression as inimical to freedom.[29] Stallman not only advocates reducing protection for intellectual property; he also favors compelling disclosure of information that is the basis for much intellectual property. For him, ideas are not merely nonrivalrous; at least within the realm he has focused on, ideas carry with them an imperative to be shared.[30]

More limited arguments against intellectual property rights (and against the analogy of such rights to other property rights) are offered by legal scholars such as Lawrence Lessig and David Post. Lessig, relying heavily on the nonrivalrous nature of ideas at the core of intellectual property, urges a reduction in protections for ideas and expression.[31] Lessig claims that cutting back on legal protections for authors and inventors would be beneficial in part because strong intellectual property rights actually do exactly the opposite of what is supposed by the instrumental case for them: stifling, rather than encouraging, creativity and suppressing, rather than promoting, progress. In the same vein, Post touts the flourishing of the Internet—which he calls essentially a copyright-free zone—as "the greatest outpouring of creative activity in a short span that the world has ever seen."[32]

Economists Michele Boldrin and David Levine provide a sophisticated economic defense for the anti-intellectual property viewpoint.[33] Their position, based on a strictly utilitarian framework, is that the costs of intellectual property far outweigh the benefits. Boldrin and Levine argue that the benefits of protection are exaggerated, since innovation would occur in a competitive

economy without protection, and the availability of protection encourages an enormous waste of resources in obtaining it. They conclude that the current system of patent and copyright laws should be abolished.

In spite of the different perspectives offered from technologists, legal theorists, and economists, the question addressed implicitly or explicitly by opponents of intellectual property rights is whether the societal gains in additional creative or inventive production as a result of intellectual property rights are outweighed by the costs associated with the reduced use of protected intellectual products, including their use to create yet more such products. Although not the only issue relevant to the design of intellectual property rights, the trade-off between creation and exploitation of ideas is at the heart of the debate over intellectual property rights.

Lessig, Post, Boldrin, and Levine are among the most prominent of a chorus of writers offering arguments for cutting back on intellectual property protections in various ways. An even larger group of academics and commentators has inveighed against proposals to increase intellectual property protections or to expand their reach.

There is, at first blush, an odd sort of disconnect in the rising number of voices in opposition to intellectual property rights. At the same time as professorial voices questioning the underpinnings of the laws that protect intellectual property have multiplied, the demand for intellectual property courses in law schools has risen precipitously and the number of law teachers turning to this field has grown. The demand among students for intellectual property law courses reflects changes in the economy those students will engage after graduation. The past generation has seen an extraordinary change in the degree to which advanced economies depend on ideas to generate wealth. The common description is that we've moved from an agriculture-based economy, to a manufacturing-based economy, to a service-based economy, and now to an information-and-idea-based economy. If the shorthand description overstates the case, it nonetheless captures a change that has occurred in the United States, Western Europe, Japan, and other developed nations.

Parallel to the change in the importance of ideas to developed economies, there has been a sea change in the ease with which many ideas (or at least particular creative expressions of ideas) can be copied. The photocopier, digital photography, the computer, and other technological changes (e.g., the

digital fabricator) have drastically reduced the cost of copying, even as the value of copying would seem to have expanded. The expected outcome would seem to be greater need for protection of the investment in creating and managing intellectual property. Of course, this returns us to the trade-off question just identified. The concrete problems confront us with increasing frequency. If pharmaceuticals and biologics hold the key to improved health, but copying them is increasingly easy once their pharmacology is disclosed, why should society not seek to secure the rewards of innovation to creators of these products? If software development boosts productivity across a wide swath of the economy but software is, thanks in large measure to the computing power it serves, more readily copied when its information is shared, would social interests be served by stronger enforcement of the protections for creators of software? If society increasingly values the product of entertainers and authors, but their work is more readily reproduced, should we enhance protection against unauthorized reproductions?

Roadmap

The book addresses these questions and provides a framework for evaluating the major controversies about intellectual property rights today. We start with the basic concept that underlies most of the rights we have today that are at issue in both academic debates and real-world conflicts: the right to own, use, control, and dispose of property. Chapter 2 explains the basic arguments over property rights and the theoretical underpinnings of modern rights. Chapter 3 turns to the application of these concepts to intellectual property. The chapter focuses particularly on the trade-offs between immediate costs of the rights and their benefits over time, a balance that is critical to understanding much of modern intellectual property law.

Chapters 4 through 7 review the contours of the four principal bodies of intellectual property law: patent, trade secret, copyright, and trademark. Each body has its own peculiar doctrines, but the problems associated with the trade-off between the short-term and the long-term costs of intellectual property run through all four chapters.

The final chapters address the edges of law and policy presented by the existence of discrete bodies of law both inside and outside the field of

intellectual property, by the existence of different national and international legal regimes, and by changes in technology and economic organization. Chapter 8 takes up issues involving the application of intellectual property law in a complex, global world, where other bodies of law and other nations' respect for intellectual property can have dramatic impact on the effective protection afforded. That chapter takes up some of the proposals for changing intellectual property law as well as exploring the implications of those proposals. Chapter 9 discusses the interaction between intellectual property law and antitrust law, two parts of the legal framework governing modern economies that often are seen as sources of warring doctrines. We conclude in Chapter 10 with an optimistic view of the current legal doctrines governing intellectual property but also with a cautionary note about the direction in which the laws might now evolve.

2

Rights to Property

Property Rights: Starting Simply?

Although the concepts of "property" and "property rights" are ancient, they remain subjects of debate. The core of the debate traces to the nature of property itself.

It is common to think of property as something obvious. We have things; they are *our* things; those things are our property. What could be simpler? And if something is *my* property, then I must have the right to control it. After all, I don't think about whether I need to ask your permission to read a book in my home or to turn on my computer. The things in my possession are my property and property law confirms my dominion over those things.

The nature of property and of property rights seems intuitively obvious, and also invariant. We may regard other bodies of law as contingent on the winds of political fortune, but we tend to think of property law as fixed and unchanging, as consisting of clear rules that have been in existence since early civilization. What could be clearer and more necessary for the ordering of society than rules that say "this is mine" and "that is yours"? Settling such questions is a prerequisite to social order and progress. It also seems a fairly basic task, not one calling for complex judgments. The manifest necessity for property rules together with their seemingly commonsense nature makes it natural to think of property law as consisting of rules that are stable and fixed for all time.

Everyone who looks seriously at the concepts of property and property rights, however, quickly learns that nothing about them is as simple as they seem. Do I need to possess something for it to be my property? If I possess