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ABSTRACT. *Property rights are fundamental to economic analysis. There is, however, no consensus in the economic literature about what property rights are. Economists define them variously and inconsistently, sometimes in ways that deviate from the conventional understandings of legal scholars and judges. This article explores ways in which definitions of property rights in the economic literature diverge from conventional legal understandings, and how those divergences can create interdisciplinary confusion and bias economic analyses. Indeed, some economists' idiosyncratic definitions of property rights, if used to guide policy, could lead to suboptimal economic outcomes.* (JEL K11, Q15)

I. INTRODUCTION

Property rights are fundamental in economics. Most elementary economics texts make the point, often early in the book, that a system of property rights "forms the basis for all market exchange" (Tregarthen and Rittenberg 2000, 133),[1] and that the allocation of property rights in society affects the efficiency of resource use. More generally, assumptions of well-defined property rights underlie all theoretical and empirical research about functioning markets. The literature further assumes that when rights are not clearly defined, market failures result. The meaning of property rights is, thus, central to the language of economics.

Given the importance of property rights in economics, it might be expected that there would be some consensus in economic theory about what property rights *are*. But no such consensus appears to exist. In contrast to many economic terms of art, the phrase "property rights" is defined variously and inconsistently. Moreover, some economists' conceptions of property rights are distinctly at odds with the conventional understandings of legal scholars and the legal profession. This is particularly surprising, given the general success of the interdisciplinary enterprise known as Law & Economics. The economists and legal scholars who comprise Law & Economics have endeavored to adopt a common conceptual apparatus and vocabulary for understanding the myriad issues that arise where law meets economics. Many legal scholars have learned the language of economics: they know the difference between Pareto efficiency and Kaldor-Hicks efficiency; they can distinguish "transaction costs" from "production costs" and "opportunity costs." Such economic terms of art are not subject to variable and inconsistent definition in the Law & Economics literature. Legal scholars who casually redefine or misapply them are rightly criticized; their work is discounted or simply ignored.

Law, like economics, is comprised of technical terms, which carry specific meanings. When economists neglect or ignore the formal or conventional understandings of legal scholars and judges, their analyses lose coherence, utility, and influence. Divergent conceptions of property rights can lead

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[1] Similar accounts of the importance of property rights can be found in most other introductory economics textbooks.

to differences in analysis and to confusions in cross-disciplinary scholarship. Loose talk about property rights in the economics literature may even contribute to a belief, held by some legal scholars, that economic analysis of the law is irrelevant because it is based on unrealistic premises or, at least, premises very different from those upon which legal analysis is based (see, e.g., Leff 1974 and White 1987).

This article analyzes several economic definitions of property rights that diverge significantly from standard legal conceptions, and how those divergent definitions can bias economic analyses and create the potential for cross-disciplinary misunderstanding. Section 2 explicates the theory of property rights that has predominated in legal theory *and practice* throughout the twentieth century. Section 3 then demonstrates, with several examples from the economics literature, how economists sometimes define property rights in ways that diverge significantly from the conventional legal paradigm. Section 4 discusses how these divergent definitions of property rights can create confusion and, if used to guide policy, lead to suboptimal economic outcomes. Section 5 concludes with a few remarks about the importance of getting rights *right*.

II. THE HOHFELDIAN PARADIGM OF LEGAL RIGHTS AND DUTIES

Wesley Newcomb Hohfeld's Theory of Correlative Property Rights and Duties

First-year law students are taught that property rights are relations between people respecting things.[2] Defining these property relations—between owners and non-owners, and among claimants to disputed title—has been a basic task of both property theorists and common-law judges throughout American history. According to the predominant view, if one person holds a "right" to something, at least one other person must have a corresponding duty not to interfere with her possession and use. If she *claims* a "right," but cannot point to a corresponding "duty" that is *enforceable* against at least one other person, then what she possesses may not be a "right" at all but some lesser entitlement such as a privilege, liberty, or mere use.

TABLE 1
HOHFELD'S SYSTEM OF JURAL RELATIONS

Elements	Correlatives	Opposites
Right	Duty	No right
Privilege or liberty	No right	Duty
Power	Immunity	Disability
Immunity	Disability	Liability

This relational approach to property rights and duties has a long history in American jurisprudence and judicial practice. In the late nineteenth century, Holmes and Hodgson both argued that "[t]o take rights and not the corresponding duties as the ultimate phenomena of law, is to stop short of a complete analysis" (Hodgson 1870, Vol. II, 169-70, quoted in Holmes 1872, 46). In the second decade of the twentieth century, Hohfeld (1913, 1917) elaborated on their relational approach to rights and duties in what has become one of the most influential and enduring works of American analytical jurisprudence. Hohfeld (1913, 30) was concerned about precisely the kind of loose rights talk that still infests the economics literature today. "[T]he term 'rights,'" he wrote, "tends to be used indiscriminately to cover what in a given case may be a privilege, a power, or an immunity, rather than a right in the strictest sense." To resolve this problem, Hohfeld constructed an elaborate scheme of "jural relations" (set out in Table 1), in which "right" and "duty" are jural correlatives, so that in order to establish a "right" (as opposed to some other, lesser, interest) one must be able to identify some corresponding duty that someone else possesses. In Hohfeld's system, to claim that an industrial facility has a right to emit noxious substances into the air would necessarily be to claim that others have an enforceable duty not to interfere with their polluting activity. A legally enforceable right presumes a corresponding legally enforceable duty.

[2] This relational definition of property rights has been articulated by many scholars. See, for example, Hohfeld (1913, 1917) and Cohen (1954, 373).

By contrast, to claim a "freedom," "liberty," or "privilege" with respect to some activity is not necessarily to argue that anyone or everyone else has some "duty" to refrain from interference; indeed, everyone else may possess the same "freedom," "liberty," or "privilege." Similarly, in the Hohfeldian scheme, a claim that you have no "duty" to refrain from doing something is not the same as a claim of a "right" to do it; rather, it is merely to claim that no one else has the "right" to prevent you from doing it.

The Hohfeldian conception of jural relations has not gone unchallenged. Penner (1997a, 25), for example, argues that to understand property rights "we must not only discard Hohfeld's dogma that rights are always relations between two persons, but also the idea that a right *in rem* is a simple relation between one person and a set of indefinitely many others." Penner does not, however, dispute the importance Hohfeld attached to property *duties*. On the contrary, he expressly notes (139) that "the law of property in a sense depends on the law of wrongs. It does so in two important ways. It defines the contours of the right to property, and it determines, in part, who has property rights." By recognizing that the determination of property rights depends on the enforcement of duties of noninterference, Penner is in substantial agreement with the central tenet of the Hohfeldian "dogma" (see also Penner 1997b, 167). So is Andrew Halpin (1997), who accepts Hohfeld's right-duty correlation while arguing that several of Hohfeld's other jural relations are not fundamental.

Despite its critics, Hohfeld's theory of jural relations remains dominant in legal theory and throughout the social sciences.[3] As Carl Wellman (1997, 63) recently noted, "[a]ny adequate theory of legal rights must begin with Wesley Hohfeld's fundamental legal conceptions."[4] Anthropologists have usefully applied Hohfeld's analytical system to primitive legal and social systems (Hoebel 1942; Hunt 1998). Hallowell (1955) has noted the value of Hohfeld's system for empirical social science research. Munzer (1990, 19) concludes that Hohfeld's analytical system for distinguishing rights from other interests "has no serious rival of its kind in intellectual clarity, rigor, and power."

Hohfeld's Jural Relations in Judicial Practice

Moving from the realm of theory to practice, references to Hohfeld's jural relations are commonly found in state and federal case law. For example, Justice Potter Stewart, in a 1978 Supreme Court concurrence, cited Hohfeld in suggesting that the "right" to marry is really a mere "privilege" under federal law. *Zablocki, Milwaukee County Clerk v. Redhail*, 434 U.S. 374, 391 (1978) (Stewart J., concurring). In *Yu v. Paperchase Partnership*, 114 N.M. 635, 640-1 (1992), the New Mexico Supreme Court engaged in a detailed exposition of Hohfeld's scheme of jural relations before concluding that a vendor ordinarily had the "power" to terminate a contract upon a default by a subvendee, but had a "legal disability" to terminate the contract in the absence of notice and the opportunity to cure. The Oklahoma Supreme Court, in *Fowler v. Bailey*, 844 P.2d 141, 150 n. 6 (OK 1992) (Simms, J. concurring), discussed at length Hohfeld's jural relations in a case concerning alleged financial mismanagement. In *Sims v. Century Kiest Apartments*, 567 S.W.2d 526, 531-32 & n. 2 (Tex. Civ.App.1978), a Texas court distinguished between a landlord's "right" and "power" to terminate a tenancy in a case of alleged retaliatory eviction. The Washington Supreme Court, in *Seattle Sch. Dist. No. 1 v. State*, 585 P.2d 71, 91 & n. 10 (Wash. 1978) (en banc) held that the State's constitutionally imposed "duty" to provide for children's education entailed a correlative "right" of the children to an education. In *Gutierrez v. Vergari*, 499 F.Supp. 1040, 1048 n. 6 (S.D.N.Y.1980), a federal district court in New York distinguished jural correlates

[3] A cursory (nonscientific) Westlaw search revealed citations to his 1913 and 1917 articles in 482 law review articles published during the 1990s.

[4] See also Munzer (1990, 17–27); Becker (1977); Perry (1977, 1980); Simmonds (1998); Singer (1982); Schmidtz (1994); and Wellman (1997, 63).

rights/duties from powers/liabilities under the Civil Rights Act, 42 U.S.C. §1983. Most significantly, the Hohfeldian scheme of jural relations has been expressly adopted by the American Law Institute's highly influential *Restatement of the Law of Property* (1936) (see Munzer 1990, 20). Now in its third edition, the Restatement defines "right" in §1 as "a legally enforceable claim of one person against another." The "comment" to §1 addresses the Hohfeldian notion of "correlative duty" (Liebman 2001, 2).

Aside from court decisions explicitly adopting Hohfeld's scheme, courts in many cases have cast doubt on the contra-Hohfeldian notion, prevalent in some of the economic literature on property rights, that "rights" can be established merely by initiating use without opposition or penalty. Consider, for example, the U.S. Supreme Court's decision in *Hadacheck v. Sebastian*, 239 U.S. 394 (1915), in which the plaintiff alleged that new land-use regulations constituted a taking of his property without just compensation. The record showed that Hadacheck's brick-making operation had been in business for years, producing not only bricks but "fumes, gases, smoke, soot, steam and dust . . . [which] from time to time caused sickness and serious discomfort to those living in the vicinity." However, until the City of Los Angeles passed an ordinance which prohibited brick making within the city limits, Hadacheck was never penalized in any way. There was no question that he was engaged in brick making at the site (in the Pico Heights section of town) before anyone else resided in the area. A conflict arose only when others started moving into the area. Did his first use of the atmosphere as a depository for the noxious byproducts of his brick-making operation give him a "right" to pollute? Not according to the Court, which upheld the City's ordinance prohibiting Hadacheck's operation within city limits as a valid nuisance regulation. Not only did Hadacheck's first use *not* create a "right;" it violated a "duty," which the public had a "right" to enforce.

Similarly, in 1897 the Colorado Court of Appeals held that a prior appropriator does not acquire, as an incident of title, the right to pollute water to the detriment of downstream users, even if the prior appropriator was discharging pollutants into the water before the downstream users established their claims. *The Suffolk Gold Mining & Milling Co. v. The San Miguel Consolidated Mining & Milling Co.*, 9 Colo. App. 407 (Colo. App. 1897). The first appropriator's prior use could not impose a duty on future downstream appropriators to suffer damages from the first appropriator's noxious discharges. More to the point, the subsequent downstream appropriators had a "right" to be free from the prior upstream appropriator's pollution, and could enforce his "duty" not to discharge pollutants to their detriment. More recently, in *Miller v. Cudahy, Co.*, 592 F. Supp. 976, 1001 (D.C. Kan., 1984), the defendant claimed a "right to pollute" groundwater partly by virtue of the fact that it had been doing so for a long time without penalty. The court ruled, however, that "[r]egardless of when the polluting acts occurred, and regardless of society's changing views on the propriety of polluting the environment over the years, the defendants have never had a right to pollute the groundwater and they have never had a right to intentionally injure the surrounding landowners with impunity." In other words, the plaintiffs did not have a duty to suffer the groundwater pollution and resulting harm without compensation.

Courts have likewise ruled that there is no right to pollute the air, no matter for how long the polluter acted with impunity before being regulated. As the Michigan Court of Appeals explained in *Detroit Edison Company v. Michigan Air Pollution Control Commission*, 167 Mich. App. 651, 661 (Mich. App. 1988) (citations omitted): "To constitute a protectable right, a person must have more than an abstract need, desire or unilateral expectation of the right. Rather, there must be a legitimate claim of entitlement to it. It has been recognized that there exists no right to pollute. Since no such right exists, a polluter has not been deprived of any protected property or liberty interest when the state halts the pollution."

English courts, no less than American

courts, have ruled that polluting activities are nuisances, even if they were first in time. Ronald Coase, in "The Problem of Social Cost" (1960, 8–10), famously discusses the case of *Sturges v. Bridgeman,* XI C.D. 852 (1879), in which the Chancery Division held a confectioner liable for noise that interfered with a neighboring doctor's medical practice, even though the confectioner's use was 'first in time' by some six decades, and had never previously been penalized. The confectioner's long, uninterrupted use gave him no right to emit the harmful noise. To the contrary, his operations violated a duty owed to the doctor.

In *St. Helens Smelting Co. v. Tipping*, 11 Eng. Rep. 1483 (H.L. 1865), the plaintiff complained that a neighboring smelter constituted a nuisance. The defense argued that: the smelter was already established in the area before Tipping moved into the area; the area was mainly industrial; and the smelter was operated in a non-negligent fashion. The jury nevertheless found for the plaintiff, and the House of Lords upheld the ruling on appeal. The smelter's first use of the atmosphere evidently did not give it any right to cause pollution damage to the plaintiff's property; rather, the smelter breached a duty not to interfere with Tipping's use and enjoyment of land.[5]

These various court decisions can, of course, be criticized. Scholars may disagree with the outcomes and/or the courts' reasoning. But the cases cannot be ignored because, after all, what the courts decide *is* the law (see Hart 1994, 141). This is not to say, however, that what the courts decide *is* a "right" *should* be a "right." Nor is it to claim that courts are the only institutions that determine "rights." Other governmental bodies, such as legislative assemblies and agencies, also determine formal legal "rights." Contracts also create legal rights and duties, though only as between the contracting parties. Property rights can also be created informally through social conventions, accepted customs, and other informal norms. But the notion of a corresponding *enforceable* duty remains crucial, no matter what the source of the "right."

Holmes, Modern Nuisance Law, and Coase

The simple fact that a "right" is nothing more than a court or some other, formal or informal social authority enforces is reflected in the modern law of nuisance, which makes the right to pollute or be free from pollution turn on the precise circumstances of specific resource-use conflicts, particularly the "reasonableness" of the polluter's conduct and the parties' respective costs of abatement or avoidance.[6] Generally, speaking, under modern nuisance law the assignment of rights to engage in, or be free of, harmful activities cannot be determined before a court rules. If the court finds that the defendant's conduct is "reasonable"—that is, the utility of the defendant's conduct outweighs the harm to the plaintiff—the defendant receives the entitlement. If, however, the court finds that the defendant's conduct is unreasonable, the plaintiff receives the entitlement. At best, prior to a court ruling, one can *assert* or *claim* a right. But, as Schmidtz (1994, 43) has noted, "[c]learly, people do not acquire rights merely by asserting them."

In this respect, modern nuisance law supports Holmes's argument that a claim of "right" ultimately amounts to nothing more than a prediction that a court will enforce the interest of the claimant in the face of some challenge (see Holmes 1920 [1897], 169). To presume that a factory has a right to pollute merely by virtue of the fact that it has not previously been penalized for doing so, is to presume without warrant how a court would rule in a real contest between competing claims of right.

From an economic perspective, Holmes's argument and modern nuisance law are both consistent with the Coasean worldview in which initial judicial or legislative allocations of entitlements play a critical role in determining ultimate control over resources because transaction costs may impede efficiency-enhancing reallocations (Coase

[5] For additional discussion of *St. Helens Smelting*, see Coquillette (1979, 784–91).

[6] For an introduction to the modern law of nuisance, see Dukeminier and Krier (1998, 741–78).

1960). Just because a factory pollutes without penalty does not mean that its externalities are efficient, that it produces net social benefits, or that the existing allocation of resources is optimal. To presume the entitlement from the mere fact of first use could impede efficiency in the real world of positive transaction costs and endowment (or wealth) effects, which might prevent parties from bargaining to some more efficient allocation.

III. UNCONVENTIONAL DEFINITIONS OF PROPERTY RIGHTS IN THE ECONOMICS LITERATURE

Hohfeld and Holmes are rarely cited in the economic literature on property rights, but some economists seem to understand intuitively that important distinctions exist among property rights, other kinds of entitlements, and mere uses. Hirsch (1999, 264), for example, makes specific reference to the Hohfeldian definition of "right" contained in the *Restatement of Property*. Bromley (1991, 2, 15–17) adopts in full Hohfeld's conception of jural relations, defining a property right as "a claim to a benefit stream that the state will agree to protect through the assignment of duty to others who may covet, or somehow interfere with, the benefit stream." Alchian (1965) and Demsetz (1967) each note that social consent and concomitant duties of noninterference are central to the definition of property rights. Some economists, however, adopt idiosyncratic definitions of property rights that differ significantly from the dominant trends of legal theory and judicial practice, with unfortunate consequences.

Paul Heyne on "Legal" and "Actual" Rights

Consider the following description from the late Paul Heyne's widely used introductory economics textbook:[7] "Firms do in fact have rights to discharge obnoxious substances into the air, as proved by the fact that they do it openly and are not fined. They have both actual and legal 'rights to pollute'" (Heyne 2000, 334).[8] This conception of rights may or may not be defensible as a normative matter, though the author does not present it as a normative assertion of what property rights *should* be. Rather, it is presented as a description of "both actual and legal" property rights. As such, it is inadequate and misleading on a number of grounds.

In the first place, Heyne presumes a distinction between "actual" and "legal" rights that is inherently problematic.[9] Someone can control resources without possessing a right, but to assert a right to control resources is to claim that society, through formal law or informal social norms, will enforce one's control.[10] And this must be the

[7] Lest readers deem this an obscure and unrepresentative reference, bear in mind that Professor Heyne's *The Economic Way of Thinking* has been a top-selling textbook throughout its nine editions; it has been translated into several languages—more than 200,000 copies have been sold in Russia alone—and used to train tens of thousands of economics students.

[8] Allen (1998, 106) provides a similar definition: "An economic property right is *one's ability, without penalty, to exercise a choice over a good, service, or person*" (emphasis in original).

[9] Heyne (2000, 293) argues that "legal" and "actual" rights differ because people behave according to their expectations; if their "legal rights" are underenforced (or unenforced) they will act as if their rights are less than their legal entitlement. Thus, he claims, "rights" are "social facts." This reduces the concept of "right" to an expectation of what one can actually do without penalty. There are, however, many things one can do without penalty that are not "rights." Heyne goes on to argue that one can assert a "moral right," which he takes to be something different from a "legal right." This is not unusual in itself. But what Heyne describes as a moral right seems nothing more than a moral *claim* of right—a normative assertion of an entitlement the law *ought* to protect.

[10] This is consistent, for example, with Alchian and Demsetz's (1973, 17) definition of property: "What are owned are *socially recognized* rights of action" (emphasis added). It is also consistent with Immanuel Kant's view of property. Kant argued (contra Locke) that mere physical possession was insufficient to establish ownership (see Williams 1977, 32; Bromley 1991, 5). Ownership required what Kant called "intelligible possession," which exists only in civil society (see Bromley 1998, 26). According to Williams (1977, 34), Kant was "remarkably clear" in holding that "[a]n individual cannot of himself establish a right to a thing, because a right consists of the public recognition of an existing or desired future state of affairs. Rights, and in particular property rights, must hold for others as well as for oneself, or else they are not rights." It worth noting that Kant's distinction between physical possession and property rights mirrors the common law's early differentiation of *possessio* and *proprietas* (see Hudson 1996, 150).

case whether one subscribes to a positivist view of law or some natural law theory. Either way, to assert a right is to assert a claim enforceable against others, who have a corresponding duty not to interfere with the right-holder's possession and use.[11]

In the second place, Heyne argues that the existence of the right, in the case of the firm emitting noxious substances into the air, is proved by the fact that they are not penalized for doing so. This confuses the doing of something—mere use—with the right to do it. As we have seen, however, mere use does not automatically give rise to property rights. Courts throughout America and England have rejected the notion that industry can obtain rights to pollute by being first in time.

Even supposing that it is not the imposition or nonimposition of a penalty but the legality or illegality of the conduct that is important, the mere fact that some action is not illegal does not mean that those who engage in the action have a right to do so. They may, instead, be at liberty to do it, or have the privilege or freedom to do it. Put differently, they may be said to have no duty *not* to do it. But, as we have seen, in legal theory and practice these concepts all differ from the concept of "right."

James Buchanan and Gordon Tullock on the "Right" to Pollute

To take another example, this time from a classic work of economic theory, Buchanan and Tullock present the following scenario in *The Calculus of Consent* (1962, 91):

> Smoke from an industrial plant fouls the air and imposes external costs on residents in the surrounding areas. If this represents a genuine externality, either voluntary arrangements will emerge to eliminate it or collective action with unanimous support can be implemented. If the externality is real, *some* collectively imposed scheme through which the damaged property owners are taxed and the firm's owners are subsidized for capital losses incurred in putting in a smoke-abatement machine can command the assent of all parties. If no such compensation scheme is possible (organization costs neglected), the externality is only apparent and not real. The same conclusion applies to the possibility of voluntary arrangements being worked out. Suppose that the owners of the residential property claim some smoke damage, however slight. If this claim is real, the opportunity will always be open for them to combine forces and buy out the firm in order to introduce smoke-abatement devices. If the costs of organizing such action are left out of account, such an arrangement would surely be made. All externalities of this sort would be eliminated through either voluntary organized action or unanimously supported collective action, with full compensation paid to parties damaged by the changes introduced by the removal of the externalities.

Notice that the authors tacitly presume that the polluter holds the right, and that the only option available to those harmed by the pollution is to purchase the entitlement from the polluter through voluntary collective action or some tax and subsidy scheme adopted pursuant to a rule of unanimity. But what is the basis for presuming that the industrial plant possesses the right to pollute in the first place? Why not presume instead that the neighbors possess the right to be free from the factory's pollution?[12] As we have seen, there is no basis for a presumption, one way or the other, in contemporary jurisprudence or in Coase's analytical framework

John Umbeck's Capability-Based Property Rights

Even prominent property rights economists sometimes define property rights in ways that diverge significantly from conventional legal definitions. John Umbeck (1997 [1981], 39) has written that "ownership can emerge from a variety of circumstances."

> For example, a person may acquire rights in coconuts simply because he is the only one who can climb a tree. Similarly, an individual may have

[11] At one point in his analysis, Heyne (293) acknowledges that one's "rights" depend on another's "obligations," but in his scheme this relationship is a matter of informal social acceptance, rather than legal enforceability.

[12] Arrow (1979, 25) treats the same "traditional smoke case," but presumes the neighboring landowners hold the right to clean air. In stark contrast to Buchanan and Tullock, Arrow expressly notes that "[t]he opposite assignment of property rights leads to a similar analysis."

rights to fish because he alone knows where to catch them. Or, a pretty woman may have the rights to a seat on a crowded bus because she is pretty. Notice, however, that even in these cases the individuals can be deprived of their rights by other individuals. Non-tree climbers can cut the coconut tree down, the fisherman can be continually watched and followed until his private fishing spot is discovered, and the pretty woman can be thrown from her bus seat or made physically unattractive. In other words, ownership rights to property can exist only as long as other people agree to respect them or as long as the owner can forcefully exclude those who do not agree.

Later (125), Umbeck asserts that "[*w*]*e must assume initially that each individual has the right to some resources.*"[13]

Umbeck's conception of rights plainly deviates from standard legal theory and judicial practice. According to conventional legal understanding (outlined in Section 2), a person does not acquire a right to coconuts merely because they alone are physically capable of climbing the tree. Otherwise, how can Umbeck's tree cutter dispossess them, without consent or compensation, simply by cutting down the tree? That the tree cutter *can* do so suggests that the coconut picker possesses no right to the coconuts,[14] but some lesser interest, such as a liberty or privilege, or a mere use. Similarly, Umbeck's fisherman has no right to the fish solely by virtue of the fact that he alone knows where to catch them. What he has, in fact, is an advantageous information asymmetry, but no *legal* right to the fish or right to exclude others from the fish. As for Umbeck's pretty woman on the bus, it is absurd (not to mention sexist) to claim that she has a "right" to a seat solely by virtue of being pretty and a woman. Some may give up their seats for pretty women; others may not; certainly, no one is under any obligation or duty to do so.[15] If a pretty woman should ask someone for his or her seat and that person refuse, she has no enforceable claim to the seat. Umbeck is confusing the mere doing of something with the legal right to do something or have something done. There is no necessary or conventional connection between the two. Finally, Umbeck's assertion that "we must assume initially that each individual has the right to some resource" reduces the term "right" to insignificance.[16] If everyone possesses a right but no one a corresponding duty with respect to a resource, the term "right" ceases to have any meaning for resource allocation.[17] The resource is, in effect, open-access, which is to say that it is not an object of property at all. Umbeck (141) correctly concludes, however, that property "rights are ultimately founded upon the ability to forcefully exclude potential competitors." This seems inconsistent with his other assertions about rights,[18] but wholly consistent with the dominant Hohfeldian paradigm of legal theory and judicial practice.

Yoram Barzel on "Legal" and "Economic" Rights

To take a less extreme example, another prominent property rights economist, Yoram Barzel, in *Economic Analysis of Property Rights* (1989, 110), distinguishes between "legal rights" and "economic rights:"

[13] Emphasis in original.

[14] Arguably, by using the term "right" to describe a situation in which the holder of the right has no authority to exclude others from destroying or altering the object of their right, Umbeck reduces the term right to insignificance. As the United States Supreme Court has noted, the right to exclude is "one of the most essential sticks in the bundle of rights that are commonly characterized as property." *Kaiser Aetna v. United States*, 444 U.S. 164, 176 (1979).

[15] There may, of course, be informal social norms of behavior that require passengers on buses to give up their seats for elders and the infirm, but these social norms do not, by definition, signify formal *legal* rights.

[16] Umbeck's claim also runs counter to the standard economic explanation of the "tragedy of the commons," which results from the *absence*, not the ubiquity, of rights in some resource (see Demsetz 1967).

[17] Umbeck claims, to the contrary, that the initial assumption is necessary because, without it, individuals' decisions could not affect resource allocations. But this is false. Individuals without rights may still be at liberty to use resources; they may have no duty to refrain from using resources; or they may simply use resources, as in a state of nature. He mistakenly conflates right with ability or interest. A right is, indeed, an interest, but not every interest is a right.

[18] For example, if the possession of a right depends on the ability to forcibly—by physical prowess, accepted custom, or law—exclude others, then how can Umbeck's fisherman possesses a right simply by virtue of his superior knowledge? Does that superior knowledge somehow constitute exclusion of others?

The existence of theft makes the distinction between economic and legal rights clear; it also highlights the notion that economic rights are never absolute. Thieves lack legal rights over what they steal; nevertheless, they are able to consume it and to exclude others from it, to derive income from it, and to alienate it. Each of these capabilities is an attribute of ownership The lack of legal rights may reduce the value of these capabilities, but it does not negate them.

The thief, Barzel argues, has *economic but not legal "rights"* to stolen goods. Barzel does not, however, describe the contents of the thief's supposed "economic rights." If that phrase means nothing more than the "capability" to sell or consume a good, the term "right" would appear to have no significance. Barzel conflates the factual matter of capability with the socio-legal matter of a "right" to do something.[19]

Barzel (1989) is also less than clear about how property rights are created in the first place, although he devotes an entire chapter to "the formation of rights." At one point (63) he notes that "[r]ights are created in the presence of state authority," but then (65) he suggests that property rights arise simply from individuals' claims:

People acquire, maintain, and relinquish rights as a matter of choice. Individuals take such actions directly in the private sector and indirectly, through the state, in the public sector. People choose to exercise rights when they believe the gains from such actions will exceed their costs. Conversely, people fail to exercise rights when gains from owning properties are deemed insufficient, thus placing (or leaving) such properties in the public domain. What is found in the public domain, therefore, is what people have *chosen* not to claim. As conditions change, however, something that has been considered not worthwhile to own may be newly perceived as worthwhile; conversely, what was at first owned may be placed in the public domain.

Barzel is right to treat property regimes as institutions that evolve over time, as circumstances change. But his suggestion that property rights arise merely from individual choices/claims is problematic because, as noted earlier, people do not acquire property rights merely by *claiming* them. A property *claim* becomes a property *right* only when it is socially or legally recognized as such, signifying the voluntary acceptance and enforcement of concomitant duties of noninterference. As A. Allan Schmid (1999, 233) maintains, "[p]roperty is a social fact or it is no fact at all."

IV. RESULTING BIAS AND CONFUSION

To the extent economists' definitions of property rights differ from predominant legal conceptions, they make cross-disciplinary dialogue difficult. Unwary readers may be misled into thinking that economists' definitions reflect legal reality or, at least, the understanding of legal scholars, when they do not. This same problem of variant definitions plagued the legal literature at the beginning of the twentieth century. Hohfeld set out to remedy the problem, with influential and salutary results. Although property remains in many ways an elusive concept (see Harris 1996, 6), lawyers, legal scholars, and judges seem to have little difficulty, within the margins, distinguishing rights from other kinds of interests such as licenses, privileges, or mere uses. To the extent that economists are concerned with using the idea of property rights as legal scholars do, they should avoid conflating property rights with mere uses or *claims* of right.

Perhaps more importantly, divergent definitions of property rights can skew economic analyses and, potentially, outcomes. This would not be the case, of course, in the mythical world of the Coase Theorem, in which the allocation of property rights cannot possibly affect allocative efficiency. As Coase (1960, 2–6) illustrated with his famous example of the land-use conflict between a cattle rancher and a crop farmer, the ultimate social product remains the same whoever holds the initial entitlement, *if* transacting is costless. In that circumstance, property rights, however defined, do not matter. But in the real world of positive transaction costs

[19] Allen (1999, 897–98) similarly distinguishes between legal and "economic rights" based on the capabilities of the owner.

and endowment effects, the allocation *and* meaning of property rights can (and do) affect social product.

When transaction costs are positive, it can make a great difference—in terms of ultimate economic outcomes—who initially possesses the legal right *and* what that right *means*. As Coase demonstrated in "The Problem of Social Cost" (1960), high transaction costs can prevent trading around an initial allocation to some more efficient allocation. In this circumstance, it is important that society allocate the resource initially to maximize efficiency, that is, by minimizing social costs. This is the normative aspect of Coase's theory: that the entitlement should be awarded to that party who has the higher costs of avoiding or abating the harm, so as "to avoid the more serious harm" (Coase 1960, 2).

Heyne's "Rights"

When transaction costs are high, the definition of property rights may matter every bit as much as who holds the rights. Consider the conflict between Coase's farmer and rancher in a world where property rights exist as defined by Paul Heyne (2000, 334). Farmer and Rancher each hold a supposed legal (or actual) right based simply on their respective uses, neither of which has been restricted to date. Each asserts a right based on unimpeded use, but neither can identify a corresponding *legal* duty, enforceable against the other. In a real sense, since each has the right, neither does. Reference to the pre-existing rights provides no basis for resolving the conflict. In addition, there is no reason for any third persons to believe that either Farmer or Rancher has a right to anything, or that they themselves have a duty of noninterference with respect to Farmer's and Rancher's uses. Because the rights have been defined without regard to enforceability, they and the very concept of right have become practically worthless economically as well as legally.

The dispute between Farmer and Rancher (and any third party) can presumably be resolved but only at some positive cost—as would be true of any dispute over un- or ill-defined entitlements. The parties may reach a voluntary but enforceable contract at some positive cost; some third party might resolve the dispute by imposing rights and duties, which is also costly; or one party may resolve the dispute by force—"might makes right"—which tends to be socially very costly. Ultimately, the only way for efficiency-enhancing exchange to take place, and to prevent efficiency-reducing exchanges, is for *enforceable* property rights and duties to be established. Once that is done, of course, Heyne's non-enforceable "rights" become irrelevant to the economic analysis.

Umbeck's "Rights"

The same is true under Umbeck's (1997 [1981]) definition of property rights. In Umbeck's scheme, property rights are determined by the physical characteristics of the holders, rather than by considerations of economic efficiency, first-in-time, just deserts, or other standard grounds for allocating property rights. Umbeck's coconut picker, who holds the right by virtue of his ability to climb the tree, can have his right involuntarily curtailed without compensation by the unilateral action of the tree-cutter, since the latter has no enforceable duty to forbear cutting the tree. Not only does this seem contrary to virtually every known legal conception of right but Umbeck's conceptualization hardly seems likely to maximize allocative efficiency. Surely, such a weak right would discourage efficient investment in resources. Individuals, uncertain in their rights would be "demoralized" from investing (see Michelman 1967, 1214).

From a Coasean point of view, Umbeck's analysis is problematic because it allows for allocations of rights between competing users, such as the coconut picker and the tree-cutter, without any regard for their comparative abilities to avoid or abate the harm. That is to say, Umbeck allows the tree-cutter to take away the coconut picker's "right," unilaterally and without compensation, even if that reallocation would increase joint costs and, thus, reduce the social product.

It should be noted in Umbeck's defense

that he was not using the term "right" in the same sense as Coase (1960) or other property-rights economists such as Demsetz (1967), not to mention legal scholars and judges. But this is precisely the point. By adopting an idiosyncratic conception of property rights, Umbeck exposes himself to criticism on economic grounds, which he can deflect only by noting that the criticism rests on a confusion for which he himself is responsible. Would it not be better to avoid the confusion and criticism in the first place by relying on conventional legal definitions of rights, duties, and other jural relations?

Barzel's "Rights"

Barzel's definition of "economic rights" is oddly similar to Umbeck's conception of rights: both are based on the capabilities and actual control of possessors. Barzel focuses on the capabilities of wrongful possessors—thieves—who, he claims, own "economic rights" in stolen goods by virtue of their practical ability to profit from or consume them. Like Umbeck's tree cutter, who possesses "rights" in coconuts because of his peculiar tree-climbing abilities, Barzel's thief obtains "rights" by virtue of his successful theft of another's property.

Whether the supposed "rights" are defined as "legal" or "economic," the questions remains what constitutes the "right"? If it is nothing more than actual control or capability, then the term seems inappropriate, indeed meaningless. Imagine Barzel's thief standing on his "economic rights" to the income stream from his ill-gotten gains. In what way could it make sense for the thief to say, "I have a right (economic or otherwise) to this thing I have stolen"? And who has a duty not to interfere with the thief's possession and use of the stolen goods? In Barzel's usage, the term "right" adds nothing but the potential for confusion.

Buchanan and Tullock's "Rights"

Buchanan and Tullock's scenario of the industrial polluter and neighboring residential property owners presumes an actual entitlement in the Hohfeldian sense, although there is an implicit assumption that mere use somehow established the right, and that alternative allocations are non-viable. Here, since a legally enforceable right and corresponding duties of noninterference exist, the economic analysis is simple—too simple. It is, first, presumptuous to imply legally enforceable rights from use. As we saw in Section 2, mere use may not signify the existence of a right. Second, it may be inefficient, if the industrial polluter is the best cost avoider. It is extremely unlikely, to say the least, that in the real world any single party would be the best (or worst) cost avoider in any and all resource-use conflicts.

Buchanan and Tullock provide an important parenthetical caveat to their analysis—"organization costs neglected"—which places their analysis in the mythical world of the Coase Theorem, where the parties can be expected to arrive at the same optimal allocation of pollution rights and duties, regardless of the initial allocation. The only significant difference, then, between Buchanan and Tullock's (1962, 91) case of the industrial polluter versus neighboring residential property owners and Coase's story of the rancher versus neighboring farmer is that Buchanan and Tullock simply presume that one party—the industrial polluter—holds the initial entitlement. Such a presumption certainly is not needed for the Coase Theorem to operate;[20] nor is it warranted by anything in Buchanan and Tullock's analysis.

Once we move to a world of positive transaction costs, however, Buchanan and Tullock's presumption that the industrial polluter possesses the entitlement could well lead to a suboptimal economic result. In circumstances of high transaction costs, the parties could be prevented from bargaining around the initial allocation to some more efficient allocation. This would render the initial allocation inefficient in cases where the industrial polluter proved to be the best cost avoider.

Finally, Buchanan and Tullock's pre-

[20] As Cheung (1986, 37) has pointed out, in a world of costless transacting "the assumption of private property rights can be dropped without in the least negating the Coase Theorem." Coase (1988, 15) concurs.

sumption that the industrial polluter possesses the right neglects endowment (or wealth) effects that can significantly influence resource valuations. Several studies have shown that such an endowment effect exists (Brookshire and Coursey 1987; Boyce et al. 1992; Kahneman, Knetsch, and Thaler 1990). Holders of property rights in a resource tend to value that resource more highly than others do (Sunstein 1997, 248–49). This endowment effect can, independently of transaction costs, affect bargaining between the parties. To the extent the endowments of buyers and sellers affect their respective willingness to pay and willingness to accept, the initial assignment of a right may determine the outcome of potential future transactions, thereby determining how resources are actually utilized. It is all the more important, therefore, that initial allocations be as efficient as possible. And, once again, there is no reason to simply presume, as Buchanan and Tullock do, that the right would be most efficiently held by the industrial polluter.

V. CONCLUDING REMARKS

Law & Economics has become a highly successful interdisciplinary field for several reasons, including the fact that public policy issues invariably arise at the intersection of law and economics. Those issues can only be fully understood only by scholars willing to cross disciplinary boundaries. To facilitate interdisciplinary contact, the economists and legal scholars who comprise Law & Economics have endeavored to construct a common conceptual apparatus and vocabulary. That endeavor has not been completely successful, however. Economists have not been able to agree among themselves, let alone with legal scholars, on a common, consistent definition of property rights. Yoram Barzel's (1989, xi) explanation for this is probably as good as any:

> The intellectual content of "property rights," a term that has enchanted and occasionally mesmerized economists, seems to lie within the jurisdiction of the legal profession. Consistent with their imperialist tendencies, however, economists have also attempted to appropriate it. Both disciplines can justify their claims, since the term is given different meanings on different occasions. Perhaps economists should initially have coined a term distinct from the one used for legal purposes, but by now the cost of doing so is too high.

Whatever the explanation, it is crucial that property rights be clearly defined and understood because those rights impact on so many questions in the economic literature.

Holmes, Hohfeld, and other jurists of the early twentieth century thought that it was important for legal analysts to carefully differentiate between property rights, other legal interests, and mere uses. And Coase (1960) has shown, if only implicitly, why doing so is just as important for economic theory. Even if it is not possible precisely to pin down what property rights *are,* conventional understandings as reflected in the theoretical literature and actual judicial decisions must inform any serious discussion. Stated bluntly, it is presumptuous for economists simply to presume that property rights arise from mere use or control, without at least acknowledging that such a presumption, first, runs contrary to the substantial jurisprudence on the definition and allocation of property rights and, second, may preordain suboptimal economic outcomes.

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