

3. Where Do Property Rights Come From?

There is nothing which so generally strikes the imagination, and engages the affections of mankind, as the right of property . . . and yet there are very few who give themselves the trouble to consider the origin and foundation of that right.

William Blackstone,
Commentaries on the Laws of England

RETURN TO THE SCENE of two children quarreling over a toy. Such disputes are about property rights—the children are contesting who should control the asset and get the benefits from it. As one says, “It’s mine,” and the other responds, “No, it’s mine,” how will the dispute be resolved? Will fighting erupt? Will the parents have to step in and assign the rights? Or will the children resolve the problem through a negotiated agreement?

Not only are these the typical options for the two children, but they also portray the ways that property rights usually evolve in society at large. When two neighbors quarrel about a tree branch that hangs across a fence or the teenager’s loud music that disrupts peace and quiet, will they come to a neighborly agreement, will they call the police, or will they come to fisticuffs? When one firm’s waste products enter the groundwater and lower water quality in a well used by a neighbor, will the two parties bargain with one another, go to

court, or call on the force of government to resolve the issue? When two sovereign nations have a territorial dispute, will they go to war or will they negotiate a treaty to assign borders?

This chapter explores how property rights have been created to resolve these disputes and how property rights can encourage gains from trade. It focuses on the incentives that children, neighbors, firms, and nations have to peacefully define and enforce property rights and avoid the negative consequences of fighting.

Property rights do not just happen; like any other good, they are produced by individuals, groups, and governments who invest in definition and enforcement. As the value of a resource rises or the costs of defining and enforcing property rights fall, or both, people will devote more time and effort to establishing property rights. Whether we are talking about mining claims on the American frontier, patents to new software, or ownership of potential energy supplies in the Arctic, the evolution of property rights is best explained by changes in the costs and benefits of defining and enforcing property rights. This does not mean that well-defined rights will necessarily result whenever two parties have contesting claims to property, but it does mean that disputants have an incentive to hammer out property rights in order to avoid the negative-sum game of war.

PRODUCING PROPERTY RIGHTS

If resources are abundant, there is little reason for anyone to quarrel over ownership. When the Lonesome Dove cowboys brought their cattle to fatten on the grass-

lands of Montana, there was no scarcity of good grazing land, and even when a few other herds arrived, there was no reason to fight. As historian Ernest Staples Osgood (1929, 182) put it, "There was room enough for all, and when a cattleman rode up some likely valley or across some well-grazed divide and found cattle thereon, he looked elsewhere for range." Similarly with mining camps, the early prospectors moved on when they found someone panning on a stream; it was simply too costly to fight when most likely there were other productive claims. Orbital paths for satellites seemed ubiquitous when Sputnik was first launched. Internet names were not worth battling over as long as there were only a few users.

But as resources become scarce, the potential for a tragedy of the commons raises its ugly head. Without property rights to the range, overgrazing would result. Without property rights to whales, overharvesting occurred and continues in many oceans today. People compete for the use of air as a medium through which vistas such as the Grand Canyon can be viewed and into which air pollution can be dumped. Without clear property rights to the use of air, overuse as a dumping medium results. With the increased demand for environmental amenities such as clean air, wildlife habitat, and open space, conflicts over who owns the environment have increased (Hill and Meiners 1998). Can water be diverted for irrigation, or must it stay in the stream for fish? Can trees be harvested on federal lands, or should those federal lands provide habitat for endangered species?

Each of these examples of increasing scarcity has

been met with efforts to resolve the ownership question—who has what rights to use the asset. As a result, access to the commons has been restricted in one way or another. Returning to our example of the fishery, by limiting entry to the fishery, those who obtain the right to fish have an incentive to maintain a sustainable harvest. The resources that would have been wasted in a dangerous race to fish (see chapter 2) are saved because those with secure property rights have an incentive to husband the resources.

The genetic structure of living organisms serves as another example of defining ownership. An agreement between Merck & Co. (pharmaceutical products and services) and Costa Rica's National Biodiversity Institute demonstrates the growing cooperation between government and private sector entities to share in the fruits of bioprospecting. In exchange for the right to screen plants and animals being cataloged in Costa Rica, Merck paid some \$1.1 million up front, as well as an unspecified percentage of future royalties (American University, Case 47). The contract gave Merck the right to evaluate whether plant, animal, and insect samples might have pharmaceutical and agricultural applications and gave the Costa Rican government an economic incentive to protect its resources.

Economist Harold Demsetz (1967) was the first to point out what now seems obvious, namely, that efforts to define and enforce property rights and hence reduce the waste inherent in the tragedy of the commons will respond to an economic calculus. Demsetz (1967, 334) recognized that “property rights arise when it becomes economic for those affected by externalities [the tragedy

of the commons] to internalize benefits and costs.” In other words, if the returns from restricting entry exceed the costs, individuals and groups will invest in defining and enforcing property rights.

Exactly how people go about establishing property rights can vary widely depending on the costs and benefits of definition and enforcement. Individuals may rely on social norms that limit behavior—they may post signs, build fences, go to court, or call the police. If the value of the property is low, it might not be worth building a fence, but it might be worth posting a “No Trespassing” sign. Alternatively, if the value of the property is high but the cost of fencing is even higher, guards may be used instead of fences. As we shall see, just as there is no single recipe for baking cookies, there is no single way that property rights will be produced; the best outcome will depend on property rights entrepreneurs.

PROPERTY RIGHTS ENTREPRENEURS

As with the production of all new goods, property rights entrepreneurs are the people who discover innovative ways of establishing ownership. These are the people who see value before others and take action to capture that value. The cattlemen who moved cows from Texas to Montana, and faced the potential of overgrazing, established and enforced customary range rights on a first come, first served basis. As the bison were nearly driven to extinction by hide hunters, a few entrepreneurs saw the value of preserving the last few live animals by undertaking the cost of fencing them. Indeed, the bison that remain today are the result of those early property

rights entrepreneurs. Today, real estate entrepreneurs incorporate environmental amenities such as streams and open space into their developments, thus establishing ownership of those amenities (Anderson and Leal 1997). In each of these cases, the problem for the entrepreneur is how to establish property rights to capitalize on his or her foresight.

Property rights entrepreneurs are the people who perceive gain for themselves or their group by removing resources from the commons. In doing well for themselves by claiming the resource, property rights entrepreneurs do good for society by eliminating the tragedy of the commons. How much effort they put into definition and enforcement will once again depend on the benefits and costs.

Benefits of Definition and Enforcement

The main determinant to investing in property rights definition and enforcement is the value of the resource in question. If you own an old, beat-up bicycle, investing in an expensive lock to secure your property rights to it probably is not worthwhile. If grazing land is cheap, it will not be worth putting up a fence. If water is abundant, it won't be worth carefully measuring and monitoring how much people use.

Returning to the cattleman example, as land values rose, cattlemen put increasing effort into defining and enforcing their property rights. Initially they would post signs or publish ads in local newspapers stating that they had claim to a certain range. As the number of ranchers increased, they formed cattlemen's associations that de-

clared the range closed and they banned together to exclude outsiders. They hired cowboys to live in “line camps”—cabins that were located on the boundary line between ranges—and patrol the perimeter of their range.

Land values still have an impact on the amount of effort put into defining and enforcing property rights. Though almost all land is surveyed, the exact boundary line is usually less precise between two large parcels in Montana than it is between two lots in New York City. When large blocks of land are subdivided, boundaries become more precise because the value per square foot is higher.

As amenity values from land increase, landowners are motivated to clarify their property rights so that they can profit from the increased value (see Anderson and Leal 1997). A housing developer in Boise, Idaho, for example, reclaimed a stream so that it would hold more trout and provide improved spawning habitat. He then built houses around the reclaimed stream. This enabled him to capture the value of his investment in the stream through higher home values. More and more farmers lease hunting and fishing rights and change traditional agricultural production to enhance wildlife habitat. A rancher near Bozeman, Montana, who charges a rod fee for fishing a stream on his property, has fenced his cattle out of the stream in most places and provided gravel pads where they can drink from the stream so that fish habitat will not be destroyed.

Consider how an increase in the value of oil created an incentive to avoid the tragedy of the commons (see Libecap 2003). Initially, pumpers from an oil pool

would race to the pump house to get the oil from a pool before others could. Given the way oil flows, overpumping leaves oil trapped under ground and raises the cost of extracting the resource. To overcome the tragedy of the commons, oil companies in Texas called on the state government to help them band together so they could “unitize” oil pools. Unitization defined the perimeter of the pool and coordinated pumping from it in order to eliminate overpumping.

As alternative energy technology improves to allow production from the sun and wind, landowners have more incentive to establish rights to those energy sources. As solar panels become more common, rules evolve that specify neighboring building heights so as to optimize people’s ability to capture the sun. Similarly, those who use wind to generate power do not want airflows disrupted by neighbors building large structures, and they will attempt to define their rights to the wind.

Recognition of new values is only half of the equation; to capture these values, property rights entrepreneurs must establish ownership over the relevant assets. In other words, they must invest in the definition and enforcement of new property rights arrangements. Software manufacturers devise codes to prevent people from copying software and thus depriving the software owner of revenues from his product. To protect your right to peace and quiet in your own living room, you can install caller ID to screen unwanted calls. Example after example illustrates how higher values increase definition and enforcement effort.

Working in the opposite direction, lower asset values can induce owners to give up their property rights

to those assets. The best example of this came when the introduction of the tractor rendered horse power virtually worthless. As a result, unwilling to retain ownership of horses that had to be fed but served no purpose, owners turned horses loose on public lands (the basis of wild horse herds today). In more recent times, as railroads have gone out of business, they have abandoned their rights-of-way. As new technologies come on line, it may not be worth enforcing patents to now-obsolete technologies. With all investments, the willingness of owners to put effort into defining and enforcing property rights declines as the value of the asset drops.

Cost of Definition and Enforcement

Several factors have an impact on the cost side of the property rights equation. One of the most obvious is the technology available for defining and enforcing property rights. The invention of barbed wire is a prime example. Prior to the invention of barbed wire, with limited supplies of timber for rail fences or stones for walls, cattlemen depended on the cowboys they hired to defend the boundary lines between claims.

Responding to the profit opportunity available from providing a cheaper way to establish and defend boundaries between properties, inventors applied for and received 368 patents for barbed wire between 1866 and 1868. Ranchers responded by substituting this inexpensive fencing material for cowboys riding the range, and in the process made their property rights to land and cattle more secure. The 80 million pounds sold in 1880 was sufficient to construct 500,000 miles of fence with

four strands of wire, defining and enforcing property boundaries at a fraction of the cost of cowboys.

The availability of a low-cost technology for defining and enforcing property rights is just as important today as it was on the frontier. Satellites and radio tracking devices can better define and enforce property rights. For example, information gathered by satellites can more precisely locate the boundaries on land and sea, and radio tracking devices implanted in migratory species such as whales can identify individual animals. Satellites can also monitor fishing boats so that boats without rights to fish can be excluded from a fishery, and they can track emissions into air and water so that polluters can be accountable for violating the property rights of others (Anderson and Hill 2001). Remote locks on automobiles, motion detectors in backyards, and video cameras are also obvious examples of technologies that reduce the costs of defining and enforcing property rights and make them more secure.

New opportunities allowing property rights to flourish in the twenty-first century are abundant. Geographic information systems are creating better identification and recording of resources so that property rights can be pinpointed. Similarly, isotopes can tag pollutants so that those responsible for polluted emissions can be held accountable for their costs.

Another determinant in the cost of establishing property rights is the physical nature of the resource in question. Property rights to land are more readily defined and enforced because it is possible to survey lines and record boundaries. Mobile resources such as wildlife, water, and air, however, are more difficult to bring

under the property rights umbrella. It was much easier to secure ownership, for example, to a dead bison than to a live bison. And because it was easier to enforce property rights to cattle than to bison, it is little wonder that cattlemen encouraged the decimation of bison herds, which competed with cattle for grass. As economist Dean Lueck (1995) explains, when wildlife animals range over wide areas, property rights are less likely to evolve, making government regulation more likely. Hence, the hunting of migratory waterfowl is regulated by international treaties, the hunting of deer is regulated by states, and the hunting of mice is not regulated at all—unless of course it is officially listed as an endangered species.

The higher costs of defining and enforcing property rights to a mobile resource also manifest themselves in the way water is owned. Once captured and stored, property rights to water can be readily defined, but when it is flowing through time and space, definition and enforcement costs are higher and surface water is often fought over by competing users. When the water flows underground, the costs are higher yet. As a result, groundwater basins are subject to overpumping,

PRIVATE VERSUS GOVERNMENTAL DEFINITION AND ENFORCEMENT

As noted at the beginning of the chapter, people tend to think that definition and enforcement of property rights is the domain of government, but individuals do have some choice over whether they use the government or the private sector for definition and enforce-

ment. For example, we rely minimally on the government to enforce our rights to our bicycles. In most cases, we do not record the serial number with a government, and we really don't expect the police to enforce our property rights. Instead, most of us rely on private enforcement in the form of strong locks.

Whether people choose private or governmental definition and enforcement depends on the security of property rights provided by the formal legal environment (Yandle 2001). If the legal environment provides inexpensive and secure ways of recording property rights, people are more likely to invest in governmental definition and enforcement processes. Recording a land deed in the county courthouse and registering a car title with the state are important for securing property rights, and both actions are easy and relatively inexpensive. Even water rights can be made more secure if the state adjudicates conflicting rights, records the settlements, and allows owners to trade their water assets. In this context, common law courts (see chapter 5), which rely on precedent, can enhance the return on defining and enforcing property rights.

On the other hand, when formal legal institutions are lacking or do not provide secure property rights, people are more likely to turn to private definition and enforcement (de Soto 2000). The American frontier provides an interesting historical example. Squatters in advance of formal governmental institutions formed land claims clubs that defined property rights among the members and enforced them against outsiders.

As previously discussed, cattlemen on the northern plains organized associations that defined and enforced

property rights to land and livestock. They developed customary range rights, posting signs that areas were claimed by members of the association and advertising in local newspapers that ranges were closed to outsiders. For example, a notice published in a Helena, Montana, paper in 1883, asserted:

We the undersigned, stockgrowers of the above described range, hereby give notice that we consider said range already overstocked; therefore we positively decline allowing any outside parties or any parties locating herds upon this range the use of our corrals, nor will they be permitted to join us on any roundup on the said range from and after this date.

These privately defined and enforced rights were secure enough that they were bought and sold in an active market. Case in point: In 1884, the Swan Land and Cattle Company purchased a 160-acre ranch with improvements and stock from the National Cattle Company for \$768,850. Swan also purchased a 320-acre ranch with improvements and cattle for \$984,023, and the Valley Land and Cattle Company carried on its books a valuation of \$85,000 for the range rights that it owned (see Anderson and Hill 2003). These prices reflect the value of the secure property rights that allowed the owner to restrict entry to the grazing commons. By organizing into regional associations and developing rules for governing property rights, the “cattle community,” as Osgood (1929, 115) described it, could achieve three common goals:

First, to preserve the individual’s ownership in his herd and his increase; second, to afford protection to

the individual's herds; and third, to control the grazing of the public domain or to prevent overcrowding. These aims, which might have been achieved by an individual in the earlier days of comparative isolation, could now only be realized through group effort.

Early mining camps in the West provide another example of private efforts to define and enforce property rights (see McChesney 2003). Hundreds of miners armed with six-shooters rushing to claim gold had all the potential for conflict and violence, but violence was not the norm. It was “generally confined to a few special categories and did not affect all activities or all people,” namely, children, women, and law-abiding citizens. Despite the frontier’s reputation for violence, “crimes most common today . . . robbery, theft, burglary, and rape—were of no great significance. . . .” (McGrath 1984, 247). In 1849, one observer noted that the California mining camps rapidly developed a set of rules that “placed the strong and the weak upon a footing of equality, defined the claims that might be set apart, protected the tools left on the ground as evidence of proprietorship, and permitted the adventurers to hold their rights as securely as if they were guaranteed by a charter from the government” (quoted in Zerbe and Anderson 2001, 115).

Miners also established a new system for defining and enforcing water rights that remains the foundation of water rights in the western United States to this day. In the eastern United States, where water is relatively abundant and hence diversions (say, for irrigation) are

less important, landowners adjacent to streams have riparian rights to an undiminished quantity and quality of water. Thus, upstream users can use water for domestic purposes or power generation, but they cannot divert significant quantities of water or pollute the water so as to sufficiently diminish its quantity or quality for downstream users.

Because the miners had to divert water from streams, first to sluice boxes where gold was separated from gravel and later to hydraulic hoses that provided enough pressure to dislodge gravel-bearing gold from its surrounding geologic structures, they abandoned the riparian system and replaced it with the prior appropriation system (see Lueck 2003). This system granted to the first appropriator an exclusive right to the water and granted to later appropriators rights conditioned on the claims of prior users; minimized the costs of defining and enforcing rights to the fluid resource by requiring diversion and use; and allowed transfer and exchange of water rights among users. Hence, the first pioneers in the West were property rights entrepreneurs by necessity.

In part, cattlemen's associations and mining camps were able to collectively agree on rules for the evolution of property rights because they were relatively homogeneous groups with similar production interests. Cattlemen, for example, had an incentive to band together for roundups on the open range because it took many cowboys to round up the cattle twice each year, once in the spring for branding and once in the fall for marketing. If each cattle owner did this on his own, the effort would be replicated several times, but by agreeing on a group

roundup, cost savings were significant. Once an association was formed to organize the roundup, it was easier to develop other rules for defining and enforcing property rights.

Today, homeowner and condominium associations provide examples of homogeneous private groups defining and enforcing property rights. With their common purpose, people in associations can limit the types and locations of buildings in subdivisions, self-regulate activities that go on in condominium complexes, and require members to pay dues for providing public goods. As long as groups have a uniform purpose and deal with problems that are confined to the boundaries over which the association has control, private solutions such as these can be effective.

These examples notwithstanding, we primarily rely on government, with its monopoly on the legitimate use of force, to define and enforce property rights. We expect our governments to record and enforce titles to our cars, deeds to our land, and patents to our inventions. Even the early private efforts of cattlemen turned to formal government for implementation of their rules once there were a sufficient number of people to organize governmental units. After cattlemen's associations established private brand registration, for example, they turned to territorial and state governments to codify and enforce this process. Similarly, the prior appropriation water doctrine, hammered out in mining camps and irrigation districts, was codified in the earliest territorial and state laws.

Patents and copyrights are another example of the government granting and enforcing property rights to

ideas. Imagine what would happen to the brand name Coca-Cola without trademark protection. Without these grants to exclusivity, investment in new ideas, new technologies, and new writings would be low because investors would not be guaranteed the fruits of their labors. Of course, even with state definition and enforcement, property rights cannot be perfectly enforced, as the Napster case, involving reproduction of music on the Internet, illustrated. The very nature of the World Wide Web and the Internet necessitate contributory copyright infringement. Whether linking to any particular copyrighted work constitutes contributory infringement or fair use continues to be judged in court. The Napster ruling, which equated to Napster forfeiting \$20 million dollars in settlement with the record companies involved did, however, have a chilling effect on website creators who were hyperlinking to copyrighted content (see *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004 9th Cir. 2001).

At the foundation of governmentally enforced property rights is the Constitution with its limit on the government's ability to take private property without just compensation and due process. If such constitutional constraints are rigidly upheld, people are more likely to invest in private ownership (see chapter 5). If they are not, citizens are discouraged from investing in private property. Third World nations, for example, lack the process to represent their property and create capital. As de Soto explains, "They have houses but not titles; crops but not deeds; businesses but not statutes of incorporation" (2000, 7). This helps explain why entrepreneurs

have not been able to produce sufficient capital to make domestic capitalism work in the Third World.

CONCLUSION

After exploring how property rights evolve, it is important to consider whether property rights can devolve. Granting government the legitimate power of coercion necessary to protect private property rights creates a two-edged sword. On the one hand, the state can take advantage of scale economies in enforcement and apply the rules to a broader population, thus providing the basis for economic growth and prosperity. On the other hand, that same coercive power gives government the ability to take private property, a subject we turn to in the next chapter. Paraphrasing Chief Justice John Marshall's ruling regarding the state's power to tax, suffice it to say here that the power to take is the power to destroy.