

The Institution of Property*

David Schmitz

The evolution of property law is driven by an ongoing search for ways to internalize externalities: positive externalities associated with productive effort and negative externalities associated with misuse of commonly held resources. In theory, and sometimes in practice, costs are internalized over time. Increasingly, people pay for their own mistakes and misfortunes, and not for mistakes and misfortunes of others.

If all goes well, property law enables would-be producers to capture the benefits of productive effort. It also enables people to insulate themselves from negative externalities associated with activities around the neighborhood. Property law is not perfect. To minimize negative externalities that neighbors might otherwise impose on each other, people resort to nuisance and zoning laws. People turn to institutions like the Environmental Protection Agency for the same reasons they turn to central planners in other parts of the world; they think decentralized decision making is chaos, and that with chaos comes a burgeoning of negative externalities.

What is the reality? The reality is that decentralization may or may not be chaos. It depends on institutional structure. An open-access commons decentralizes decision making in one way; private property decentralizes it in another way, with systematically different results.

Philosophers speak of the ideal of society as a cooperative venture for mutual advantage. To be a cooperative venture for mutual advantage, though, society must first be a setting in which mutually advantageous interaction is possible. In the parlance of game theorists, society must be a positive sum game. What determines the extent to which society is a positive sum game? This essay explains how property institutions convert negative-sum or zero-sum games into positive-sum games, setting the stage for society's flourishing as a cooperative venture.

The term 'property rights' is used to refer to a bundle of rights that could include rights to sell, lend, bequeath, and so on. In what follows, I use the phrase to refer primarily to the right of owners to exclude non-owners. Private owners have the right to exclude non-owners, but the right to exclude is a feature of property rights in general rather than the defining feature of private ownership in particular. The National Park Service claims a right to exclude. Communes claim a right to exclude nonmembers. This essay does not settle which kind or which mix of public and private property institutions is best. Instead, it asks how we could justify any institution that recognizes a right to exclude.

* From "The Institution of Property," *Social Philosophy and Policy*, vol. 11 (1994) 42-62. This revised version appears in *Environmental Ethics: What Really Matters. What Really Works*, edited by D. Schmitz & Elizabeth Willott, New York: Oxford University Press (2002).

1. Original Appropriation: The Problem

The right to exclude presents a philosophical problem, though. Consider how full-blooded rights differ from mere liberties. If I am at liberty to plant a garden, that means my planting a garden is permitted. That leaves open the possibility of you being at liberty to interfere with my gardening as you see fit. Thus, mere liberties are not full-blooded rights. When I stake a claim to a piece of land, though, I claim to be changing other people's liberties—canceling them somehow—so that other people no longer are at liberty to use the land without my permission. To say I have a right to the land is to say I have a right to exclude.

From where could such rights have come? There must have been a time when no one had a right to exclude. Everyone had liberties regarding the land, but not rights. (Perhaps this does not seem obvious, but if no one owns the land, no one has a right to exclude. If no one has a right to exclude, everyone has liberties.) How, then, did we get from each person having a liberty to someone having an exclusive right to the land? What justifies original appropriation, that is, staking a claim to previously unowned resources?

To justify a claim to unowned land, people need not make as strong a case as would be needed to justify confiscating land already owned by someone else. Specifically, since there is no prior owner in original appropriation cases, there is no one from whom one can or needs to get consent. What, then, must a person do? Locke's idea seems to have been that any residual (perhaps need-based) communal claim to the land could be met if a person could appropriate it without prejudice to other people, in other words, if a person could leave "enough and as good" for others. This so-called Lockean Proviso can be interpreted in many ways, but an adequate interpretation will note that this is its point: to license claims that can be made without making other people worse off. In the language of modern environmental economics, we might read it as a call for sustainable use.

We also should consider whether the "others" who are to be left with enough and as good include not just people currently on the scene but latecomers as well, including people not yet born. John Sanders asks, "What possible argument could at the same time require that the present generation have scruples about leaving enough and as good for one another, while shrugging off such concern for future generations?" (Sanders, 1987, p. 377). Most theorists accept the more demanding interpretation. It fits better with Locke's idea that the preservation of humankind (which includes future generations) is the ultimate criterion by which any use of resources is assessed. Aside from that, we have a more compelling defense of an appropriation (especially in environmental terms) when we can argue that there was enough left over not just for contemporaries but also for generations to come.

Of course, when we justify original appropriation, we do not in the process justify expropriation. Some say institutions that license expropriation make people better off; I think our histories of violent expropriation are ongoing tragedies for us all. Capitalist regimes have tainted histories. Communist regimes have tainted histories.

Indigenous peoples have tainted histories. Europeans took land from native American tribes, and before that, those tribes took the same land from other tribes. We may regard those expropriations as the history of markets or governments or Christianity or tribalism or simply as the history of the human race. It makes little difference. This essay discusses the history of property institutions, not because their history can justify them, but rather because their history shows how some of them enable people to make themselves and the people around them better off without destroying their environment. Among such institutions are those that license original appropriation (and not expropriation).

2. Original Appropriation: A Solution

Private property's philosophical critics often have claimed that justifying original appropriation is the key to justifying private property, frequently offering a version of Locke's Proviso as the standard of justification. Part of the Proviso's attraction for such critics was that it seemingly could not be met. Even today, philosophers generally conclude that the Proviso is, at least in the case of land appropriation, logically impossible to satisfy, and thus that (private) property in land cannot possibly be justified along Lockean lines.

The way Judith Thomson puts it, if "the first labor-mixer must literally leave as much and as good for others who come along later, then no one can come to own anything, for there are only finitely many things in the world so that every taking leaves less for others" (Thomson, p. 330). To say the least, Thomson is not alone:

"We leave enough and as good for others only when what we take is not scarce" (Fried, p. 230n).

"The Lockean Proviso, in the contemporary world of overpopulation and scarce resources, can almost never be met" (Held, p. 6).

"Every acquisition worsens the lot of others – and worsens their lot in relevant ways" (Bogart, p. 834).

"The condition that there be enough and as good left for others could not of course be literally satisfied by any system of private property rights" (Sartorius, p. 210).

"If the 'enough and as good' clause were a necessary condition on appropriation, it would follow that, in these circumstances, the only legitimate course for the inhabitants would be death by starvation . . . since no appropriation would leave enough and as good in common for others" (Waldron, p. 325).

And so on. If we take something out of the cookie jar, we must be leaving less for others. This appears self-evident. It has to be right.

2.1. Appropriation Is Not a Zero-Sum Game

But it is not right. First, it is by no means impossible – certainly not logically impossible – for a taking to leave as much for others. Surely we can at least imagine a

logically possible world of magic cookie jars in which, every time you take out one cookie, more and better cookies take its place.

Second, the logically possible world I just imagined is the sort of world we actually live in. Philosophers writing about original appropriation tend to speak as if people who arrive first are luckier than those who come later. The truth is, first appropriators begin the process of resource creation; latecomers get most of the benefits. Consider America's first permanent English settlement, the Jamestown colony of 1607. (Or, if you prefer, imagine the lifestyles of people crossing the Bering Strait from Asia twelve thousand years ago.) Was their situation better than ours? How so? Was it that they never worried about being overcharged for car repairs? They never awoke in the middle of the night to the sound of noisy refrigerators, leaky faucets, or flushing toilets? They never had to change a light bulb? They never agonized over the choice of long-distance telephone companies?

Philosophers are taught to say, in effect, that original appropriators got the good stuff for free. We have to pay for ugly leftovers. But in truth, original appropriation benefits latecomers far more than it benefits original appropriators. Original appropriation is a cornucopia of wealth, but mainly for latecomers. The people who got here first never dreamt of things we latecomers take for granted. The poorest among us have life expectancies exceeding theirs by several decades. This is not political theory. It is not economic rhetoric. It is fact.

Original appropriation diminishes the stock of what can be originally appropriated, at least in the case of land, but that is not the same thing as diminishing the stock of what can be owned.ⁱ On the contrary, in taking control of resources and thereby removing those particular resources from the stock of goods that can be acquired by original appropriation, people typically generate massive increases in the stock of goods that can be acquired by trade. The lesson is that appropriation typically is not a zero-sum game. It normally is a positive sum game. As Locke himself stressed, it creates the possibility of mutual benefit on a massive scale. It creates the possibility of society as a cooperative venture.

The argument is not merely that enough is produced in appropriation's aftermath to compensate latecomers who lost out in the race to appropriate. The argument is that the bare fact of being an original appropriator is not the prize. The prize is prosperity, and latecomers win big, courtesy of those who got here first. If anyone had a right to be compensated, it would be the first appropriators.

2.2. The Commons Before Appropriation Is Not Zero-Sum Either

The second point is that the commons before appropriation is not a zero-sum game either. Typically it is a negative sum game. Let me tell two stories. The first comes from the coral reefs of the Philippine and Tongan Islands (Chesher, 1985; Gomez, Alcala, and San Diego, 1981). People once fished those reefs with lures and traps, but have recently caught on to a technique called bleach-fishing, which involves dumping

bleach into the reefs. Fish cannot breath sodium hypochlorite. Suffocated, they float to the surface where they are easy to collect.ⁱⁱ

The problem is, the coral itself is composed of living animals. The coral suffocates along with the fish, and the dead reef is no longer a viable habitat. (Another technique, blast-fishing, involves dynamiting the reefs. The concussion produces an easy harvest of stunned fish and dead coral.) You may say people ought to be more responsible. They ought to preserve the reefs for their children.

That would miss the point, which is that individual fishermen lack the option of saving the coral for their children. Individual fishermen obviously have the option of not destroying it themselves, but what happens if they elect not to destroy it? What they want is for the reef to be left for their children; what is actually happening is that the reef is left for the next blast-fisher down the line. If a fisherman wants to have anything at all to give his children, he must act quickly, destroying the reef and grabbing the fish himself. It does no good to tell fishermen to take responsibility. They are taking responsibility – for their children. Existing institutional arrangements do not empower them to take responsibility in a way that would save the reef.

Under the circumstances, they are at liberty to not destroy the reef themselves, but they are not at liberty to do what is necessary to save the reef for their children. To save the reef for their children, fishermen must have the power to restrict access to the reef. They must claim a right to exclude blast-fishers. Whether they stake that claim as individuals or as a group is secondary, so long as they actually succeed in restricting access. But one way or another, they must claim and effectively exercise a right to restrict access.

The second story comes from the Cayman Islands.ⁱⁱⁱ The Atlantic Green Turtle has long been prized as a source of meat and eggs. The turtles were a commonly held resource and were being harvested in an unsustainable way. In 1968, when by some estimates there were as few as three to five thousand left in the wild, a group of entrepreneurs and concerned scientists created Cayman Turtle Farm and began raising and selling captive-bred sea turtles. In the wild, as few as one tenth of one percent of wild hatchlings survive to adulthood. Most are seized by predators before they can crawl from nest to sea. Cayman Farm, though, boosted the survival rate of captive-bred animals to well over fifty percent. At the peak of operations, they were rearing in excess of a hundred thousand turtles. They were releasing one percent of their hatchlings into the wild at the age of ten months, an age at which hatchlings had a decent chance of surviving to maturity.

In 1973, commerce in Atlantic Green Turtles was restricted by CITES (the Convention on International Trade in Endangered Species) and, in the United States, by the Fish and Wildlife Service, the Department of Commerce, and the Department of the Interior. Under the newly created Endangered Species Act, the U.S. classified the Atlantic Green Turtle as an endangered species, but Cayman Farm's business was unaffected, at first, because regulations pertaining to commerce in Atlantic Green Turtles exempted commerce in captive-bred animals. In 1978, however, the regulations were published in their final form, and although exemptions were granted for trade in

captive-bred animals of other species, no exemption was made for trade in turtles. The company could no longer do business in the U.S. Even worse, the company no longer could ship its products through American ports, so it no longer had access via Miami to world markets. The Farm exists today only to serve the population of the Cayman Islands themselves.

What do these stories tell us? The first tells us we do not need to justify failing to preserve the commons in its pristine, original, unappropriated form, because preserving the commons in pristine original form is not an option. The commons is not a time capsule. Leaving our environment in the commons is not like putting our environment in a time capsule as a legacy for future generations. In some cases, putting resources in a time capsule might be a good idea. However, the second story reminds us: there are ways to take what we find in the commons and preserve it – to put it in a time capsule – but before we can put something in a time capsule, we have to appropriate it.^{iv}

2.3. Justifying the Game

Note a difference between justifying institutions that regulate appropriation and justifying particular acts of appropriation. Think of original appropriation as a game and of particular acts of appropriation as moves within the game. Even if the game is justified, a given move within the game may have nothing to recommend it. Indeed, we could say (for argument's sake) that any act of appropriation will seem arbitrary when viewed in isolation, and some will seem unconscionable. Even so, there can be compelling reasons to have an institutional framework that recognizes property claims on the basis of moves that would carry no weight in an institutional vacuum. Common law implicitly acknowledges morally weighty reasons for not requiring original appropriators to supply morally weighty reasons for their appropriations. Carol Rose (1985) argues that a rule of first possession, when the world is notified in an unambiguous way, induces discovery (and future productive activity) and minimizes disputes over discovered objects. Particular acts of appropriation are justified not because they carry moral weight but because they are permitted moves within a game that carries moral weight.

Needless to say, the cornucopia of wealth generated by the appropriation and subsequent mobilization of resources is not an unambiguous benefit. The commerce made possible by original appropriation creates pollution, and other negative externalities as well. (I will return to this point.) Further, there may be people who attach no value to the increases in life expectancy and other benefits that accompany the appropriation of resources for productive use. Some people may prefer a steady-state system that indefinitely supports their lifestyles as hunter-gatherers, untainted by the shoes and tents and safety matches of Western culture. If original appropriation forces such people to participate in a culture they want no part of, then from their viewpoint, the game does more harm than good.

Here are two things to keep in mind, though. First, as I said, the commons is not a time capsule. It does not preserve the status quo. For all kinds of reasons, quality of life could drop after appropriation. However, pressures that drive waves of people to appropriate are a lot more likely to compromise quality of life when those waves wash over an unregulated commons. In an unregulated commons, those who conserve pay the costs but do not get the benefits of conservation, while overusers get the benefits but do not pay the costs of overuse. Therefore, an unregulated commons is a prescription for overuse, not for conservation.

Second, the option of living the life of a hunter-gatherer has not entirely disappeared. It is not a comfortable life. It never was. But it remains an option. There are places in northern Canada and elsewhere where people can and do live that way. As a bonus, those who opt to live as hunter-gatherers retain the option of participating in western culture on a drop-in basis during medical emergencies, to trade for supplies, and so on. Obviously, someone might respond, "Even if the hunter-gatherer life is an option now, that option is disappearing as expanding populations equipped with advancing technologies claim the land for other purposes." Well, probably so. What does that prove? It proves that, in the world as it is, if hunter-gatherers want their children to have the option of living as hunter-gatherers, then they need to stake a claim to the territory on which they intend to preserve that option. They need to argue that they, as rightful owners, have a right to regulate access to it. If they want a steady-state civilization, they need to be aware that they will not find it in an unregulated commons. They need to argue that they have a right to exclude oil companies, for example, which would love to be able to treat northern Canada as an unregulated commons.

When someone says appropriation does not leave enough and as good for others, the reply should be "compared to what?" Compared to the commons as it was? As it is? As it will be? Often, in fact, leaving resources *in the commons* does not leave enough and as good for others. The Lockean Proviso, far from forbidding appropriation of resources from the commons, actually requires appropriation under conditions of scarcity. Moreover, the more scarce a resource is, the more urgently the Proviso requires that it be removed from the negative sum game that is the unregulated commons. Again, when the burden of common use exceeds the resource's ability to renew itself, the Proviso comes to require, not merely permit, people to appropriate and regulate access to the resource. Even in an unregulated commons, some fishermen will practice self-restraint, but something has to happen to incline the group to practice self-restraint in cases where it already has shown it has no such inclination in an unregulated commons.

Removing goods from the commons stimulates increases in the stock of what can be owned and limits losses that occur in tragic commons. Appropriation replaces a negative sum with a positive sum game. Therein lies a justification for social structures enshrining a right to remove resources from the unregulated commons: when resources become scarce, we need to remove them if we want them to be there for our children. Or anyone else's.

3. What Kind of Property Institution Is Implied?

I have defended appropriation of, and subsequent regulation of access to, scarce resources as a way of preserving (and creating) resources for the future. When resources are abundant, the Lockean Proviso permits appropriation; when resources are scarce, the Proviso requires appropriation. It is possible to appropriate without prejudice to future generations. Indeed, when resources are scarce, it is leaving them in the commons that is prejudicial to future generations.

Private property enables people (and gives them an incentive) to take responsibility for conserving scarce resources. It preserves resources under a wide variety of circumstances. It is the preeminent vehicle for turning negative sum commons into positive sum property regimes. However, it is not the only way. Evidently, it is not always the best way, either. Public property is ubiquitous, and it is not only rapacious governments and mad ideologues who create it. Sometimes it evolves spontaneously as a response to real problems, enabling people to remove a resource from an unregulated commons and collectively take responsibility for its management. The following sections discuss research by Martin Bailey, Harold Demsetz, Robert Ellickson, and Carol Rose, showing how various property institutions help to ensure that enough and as good is left for future generations.

3.1. The Unregulated Commons

An unregulated commons need not be a disaster. An unregulated commons will work well enough so long as the level of use remains within the land's carrying capacity. However, as use nears carrying capacity, there will be pressure to shift to a more exclusive regime. As an example of an unregulated commons evolving into something else as increasing traffic begins to exceed carrying capacity, consider Harold Demsetz's account of how property institutions evolved among indigenous tribes of the Labrador peninsula. As Demsetz tells the story, the region's people had, for generations, treated the land as an open-access commons. The human population was small. There was plenty to eat. Thus, the pattern of exploitation was within the land's carrying capacity.^v The resource maintained itself. In that situation, the Proviso, as interpreted above, was satisfied. Original appropriation would have been permissible, other things equal, but it was not required.

With the advent of the fur trade, though, the scale of hunting and trapping activity increased sharply. The population of game animals began to dwindle. The unregulated commons had worked for a while, but now the tribes were facing a classic tragedy. The benefits of exploiting the resource were internalized but the costs were not, and the arrangement was no longer viable. Clans began to mark out family plots. The game animals in question were small animals like beaver and otter that tend not to migrate from one plot to another. Thus, marking out plots of land effectively privatized small game as well as the land itself. In sum, the tribes converted the commons in nonmigratory fur-bearing game to family parcels when the fur trade began to spur a

rising demand that exceeded the land's carrying capacity. When demand began to exceed carrying capacity, that was when the Proviso came not only to permit but to require original appropriation.

One other nuance of the privatization of fur-bearing game: although the fur was privatized, the meat was not. There was still plenty of meat to go around, so tribal law allowed trespass on another clan's land to hunt for meat. Trespassers could kill a beaver and take the meat, but had to leave the pelt displayed in a prominent place to signal that they had eaten and had respected the clan's right to the pelt. The new customs went to the heart of the matter, privatizing what had to be privatized, leaving intact liberties that people had always enjoyed with respect to other resources where unrestricted access had not yet become a problem.

3.2 The Communal Alternative^{vi}

We can contrast the unregulated or open-access commons with communes. A commune is a restricted-access commons. In a commune, property is owned by the group rather than by individual members. People as a group claim and exercise a right to exclude. Typically, communes draw a sharp distinction between members and nonmembers, and regulate access accordingly. Public property tends to restrict access by time of day or year. Some activities are permitted; others are prohibited.

Ellickson believes a broad campaign to abolish either private property or public and communal property would be ludicrous. Each kind of property serves social welfare in its own way. Likewise, every ownership regime has its own externality problems. Communal management leads to overconsumption and to shirking on maintenance and improvements, because people receive only a fraction of the value of their labor, and bear only a fraction of the costs of their consumption. To minimize these disincentives, a commune must intensively monitor people's production and consumption activities.

In practice, communal regimes can lead to indiscriminate dumping of wastes, ranging from piles of unwashed dishes to ecological disasters that threaten whole continents. Privately managed parcels also can lead to indiscriminate dumping of wastes and to various other uses that ignore spillover effects on neighbors. One advantage of private property is that owners can buy each other out and reshuffle their holdings in such a way as to minimize the extent to which their activities bother each other. But it does not always work out so nicely, and the reshuffling itself can be a waste. There are transaction costs. Thus, one plausible social goal would be to have a system that combines private and public property in a way that reduces the sum of transaction costs and the cost of externalities.

4. Local versus Remote Externalities

Is it generally best to convert an unregulated commons to smaller private parcels or to manage it as a commune with power to exclude non-members? It depends on

what kind of activities people tend to engage in. Ellickson separates activities into three categories: small (like cultivating a tomato plant), medium (like damming part of a river to create a pond for ducks), and large (like using an industrial smokestack to disperse noxious fumes). The distinction is not meant to be sharp. As one might expect, it is a matter of degree. It concerns the relative size of the area over which externalities are worth worrying about. The effects of small events are confined to one's own property. Medium events affect people in the immediate neighborhood. Their external effects are localized. Large events affect people who are more remote.

Ellickson says private regimes are clearly superior as methods for minimizing the costs of small and medium events. Small events are not much of a problem for private regimes. When land is parceled out, the effects of small events are internalized. Neighbors do not care much when we pick tomatoes on our own land; they care a great deal when we pick tomatoes on the communal plot. In the former case, we are minding our own business; in the latter, we are minding theirs.

In contrast, the effects of medium events tend to spill over onto one's neighbors, and thus can be a source of friction. Nevertheless, privatization has the advantage of limiting the number of people having to be consulted about how to deal with the externality, which reduces transaction costs. Instead of consulting the entire community of communal owners, each at liberty with respect to the affected area, one consults a handful of people who own parcels in the immediate area of the medium event. A further virtue of privatization is that disputes arising from medium events tend to be left in the hands of people in the immediate vicinity, who tend to have a better understanding of local conditions and thus are in a better position to devise resolutions without harmful unintended consequences. They are in a better position to foresee the costs and benefits of a medium event.

When it comes to large events, though, there is no easy way to say which mix of private and public property is best. Large events involve far-flung externalities among people who do not have face-to-face relationships. The difficulties in detecting such externalities, tracing them to their source, and holding people accountable for them are difficulties for any kind of property regime. It is no easy task to devise institutions that encourage pulp mills to take responsibility for their actions while simultaneously encouraging people downstream to take responsibility for their welfare, and thus to avoid being harmed by large-scale negative externalities. Ellickson says there is no general answer to the question of which regime best deals with them.

A large event will fall into one of two categories. Releasing toxic wastes into the atmosphere, for example, may violate existing legal rights or community norms. Or, such laws or norms may not yet be in place. Most of the problems arise when existing customs or laws fail to settle who (in effect) has the right of way. That is not a problem with parceling land per se but rather with the fact that key resources like air and waterways remain in a largely unregulated commons.

So, privatization exists in different degrees and takes different forms. Different forms have different incentive properties. Simply parceling out land or sea is not always enough to stabilize possession of resources that make land or sea valuable in the first

place. Suppose, for example, that fish are known to migrate from one parcel to another. In that case, owners have an incentive to grab as many fish as they can whenever the school passes through their own territory. Thus, simply dividing fishing grounds into parcels may not be enough to put fishermen in a position collectively to avoid exceeding sustainable yields. It depends on the extent to which the sought-after fish migrate from one parcel to another, and on conventions that are continuously evolving to help neighbors deal with the inadequacy of their fences (or other ways of marking off territory). Clearly, then, not all forms of privatization are equally good at internalizing externalities. Privatization per se is not a panacea, and not all forms of privatization are equal. There are obvious difficulties with how private property regimes handle large events. The nature and extent of the difficulties depends on details. So, for purposes of comparison, Ellickson looked at how communal regimes handle large events.

5. Jamestown and Other Communes

The Jamestown Colony is North America's first permanent English settlement. It begins in 1607 as a commune, sponsored by London-based Virginia Company. Land is held and managed collectively. The colony's charter guarantees to each settler an equal share of the collective product regardless of the amount of work personally contributed. Of the original group of one hundred and four settlers, two thirds die of starvation and disease before their first winter. New shiploads replenish the population, but the winter of 1609 cuts the population from five hundred to sixty. In 1611, visiting Governor Thomas Dale finds living skeletons bowling in the streets, waiting for someone else to plant the crops. Their main food source consists of wild animals such as turtles and raccoons, which settlers hunt and eat by dark of night before neighbors can demand equal shares. In 1614, Governor Dale has seen enough. He assigns three-acre plots to individual settlers, which reportedly increases productivity seven-fold. The colony converts the rest of its land holdings to private parcels in 1619.

Why go communal in the first place? Are there advantages to communal regimes? One advantage is obvious. Communal regimes can help people spread risks under conditions where risks are substantial and where alternative risk-spreading mechanisms, like insurance, are unavailable. But as communities build up capital reserves to the point where they can offer insurance, they tend to privatize, for insurance lets them secure a measure of risk-spreading without having to endure the externalities that afflict a communal regime.

A communal regime might also be an effective response to economies of scale in large scale public works that are crucial in getting a community started. To build a fort, man its walls, dig wells, and so on, a communal economy is an obvious choice as a way of mobilizing the teams of workers needed to execute these urgent tasks. But again, as these tasks are completed and community welfare increasingly comes to depend on small events, the communal regime gives way to private parcels. At Jamestown, Plymouth, the Amana colonies, and Salt Lake, formerly communal settlers "understandably would switch to private land tenure, the system that most cheaply

induces individuals to undertake small and medium events that are socially useful” (Ellickson, p. 1342). (The legend of Salt Lake says the sudden improvement in the fortunes of once-starving Mormons occurred in 1848 when God sent sea gulls to save them from plagues of locusts, at the same time as they coincidentally were switching to private plots. Similarly, the Jamestown tragedy sometimes is attributed to harsh natural conditions, as if those conditions suddenly changed in 1614, multiplying productivity seven-fold while Governor Dale coincidentally was cutting the land into parcels.)

Of course, the tendency toward decentralized and individualized forms of management is only a (strong) tendency and, in any case, there are tradeoffs. For example, what would be a small event on a larger parcel becomes a medium event under more crowded conditions. Loud music is an innocuous small event on a ranch but an irritating medium event in an apartment complex. Changes in technology or population density affect the scope or incidence of externalities. The historical trend, though, is that as people become aware of and concerned about a medium or large event, they seek ways of reducing the extent to which the event’s cost is externalized. Social evolution is partly a process of perceiving new externalities and devising institutions to internalize them.

Historically, the benefits of communal management have not been enough to keep communes together indefinitely. Perhaps the most enduring and successful communes in human memory are the agricultural settlements of the Hutterites, dating in Europe back to the sixteenth century. There are now around twenty-eight thousand people living in such communities. Hutterites believe in a fairly strict sharing of assets. They forbid the possession of radio or television sets, to give one example of how strictly they control contact with the outside world.

Ellickson says Hutterite communities have three special things going for them: 1. A population cap: when a settlement reaches a population of one hundred and twenty, a portion of the community must leave to start a new community. The cap helps them retain a close-knit society; 2. Communal dining and worship: people congregate several times a day, which facilitates a rapid exchange of information about individual behavior and a ready avenue for supplying feedback to those whose behavior deviates from the norm; 3. A ban on birth control: the average woman bears nine children, which more than offsets the trickle of emigration. We might add that Hutterite culture and education leave people ill-prepared to live in anything other than a Hutterite society, which surely accounts in part for the low emigration rate.

Ellickson discusses other examples of communal property regimes. But the most pervasive example of communal ownership in America, Ellickson says, is the family household. American suburbia consists of family communes nested within a network of open-access roadways. Family homes tacitly recognize limits to how far we can go in converting common holdings to individual parcels. Consider your living room. You could fully privatize, having one household member own it while others pay user fees. The fees could be used to pay family members or outside help to keep it clean. In some respects, it would be better that way. The average communal living room today, for example, is notably subject to overgrazing and shirking on maintenance. Yet we put up

with it. No one charges user fees to household members. Seeing the living room degraded by communal use may be irritating, but it is better than treating it as one person's private domain.

Some institutions succeed while embodying a form of ownership that is essentially collective. History indicates, though, that members of successful communes internalize the rewards that come with that collective responsibility. In particular, they reserve the right to exclude nonmembers. A successful commune does not run itself as an open-access commons.

6. Governance By Custom

Many commons (such as our living rooms) are regulated by custom rather than by government, so saying there is a role for common property and saying there is a role for government management of common property are two different things. As Ellickson notes, "Group ownership does not necessarily imply government ownership, of course. The sorry environmental records of federal land agencies and Communist regimes are a sharp reminder that governments are often particularly inept managers of large tracts." Carol Rose tells of how, in the nineteenth century, public property was thought to be owned by society at large. The idea of public property often was taken to imply no particular role for government beyond whatever enforcement role is implied by private property. Society's right to such property was held to precede and supersede any claim by government. Rose says, "Implicit in these older doctrines is the notion that, even if a property should be open to the public, it does not follow that public rights should necessarily vest in an active governmental manager" (Rose, 1986 p. 720). Sometimes, rights were understood to be held by an "unorganized public" rather than by a "governmentally organized public" (Rose, 1986 p. 736).

Along the same lines, open-field agricultural practices of medieval times gave peasants exclusive cropping rights to scattered thin strips of arable land in each of the village fields. The strips were private only during the growing season, after which the land reverted to the commons for the duration of the grazing season. Thus, ownership of parcels was usufructuary in the sense that once the harvest was in, ownership reverted to the common herdsmen without negotiation or formal transfer. The farmer had an exclusive claim to the land only so long as he was using it for the purpose of bringing in a harvest. The scattering of strips was a means of diversification, reducing the risk of being ruined by small or medium events: small fires, pest infestations, etc.. The post-harvest commons in grazing land exploited economies of scale in fencing and tending a herd.

According to Martin Bailey (this volume), the pattern observed by Rose and Ellickson also was common among aboriginal tribes. That is, tribes that practiced agriculture treated the land as private during the growing season, and often treated it as a commons after the crops were in. Hunter-gatherer societies did not practice agriculture, but they too tended to leave the land in the commons during the summer when game was plentiful. It was during the winter, when food was most scarce, that

they privatized. The rule among hunter-gatherers is that where group hunting's advantages are considerable, that factor dominates (Bailey, this volume). But in the winter, small game is relatively more abundant, less migratory, and evenly spread. There was no "feast or famine" pattern of the sort one expects to see with big-game hunting. Rather, families tended to gather enough during the course of the day to get themselves through the day, day after day, with little to spare.

Even though this pattern corroborates my own general thesis, I confess to being a bit surprised. I might have predicted that it would be during the harshest part of the year that families would band together and throw everything into the common pot in order to pull through. Not so. It was when the land was nearest its carrying capacity that they recognized the imperative to privatize.

Customary use of medieval commons was hedged with restrictions limiting depletion of resources. Custom prohibited activities inconsistent with the land's ability to recover (Rose, 1986 p. 743). In particular, the custom of "stinting" allowed the villagers to own livestock only in proportion to the relative size of their (growing season) land holdings. Governance by custom enabled people to avoid commons tragedies.^{vii}

Custom is a form of management unlike exclusive ownership by either individuals or governments. Custom is a self-managing system for according property rights (Rose, 1986 p. 742). For example, custom governs the kind of rights-claims you establish by taking a place in line at a supermarket checkout counter. Rose believes common concerns often are best handled by decentralized, piecemeal, and self-managing customs that tend to arise as needed at the local level. So, to the previous section's conclusion that a successful commune does not run itself as an open-access commons, we can add that a successful commune does not entrust its governance to a distant bureaucracy.

7. The Hutterite Secret

I argued that the original appropriation of (and subsequent regulation of access to) scarce resources is justifiable as a mechanism for preserving opportunities for future generations. There are various means of exclusive control, though. Some internalize externalities better than others, and how well they do so depends on the context. My argument does not presume there is one form of exclusive control that uniquely serves this purpose. Which form is best depends on what kind of activities are most prevalent in a community at any given time. It also depends on the extent to which public ownership implies control by a distant bureaucracy rather than by local custom.

As mentioned earlier, I have heard people say Jamestown failed because it faced harsh natural conditions. But communal (and noncommunal) settlements typically face harsh natural conditions. Jamestown had to deal with summer in Virginia. Hutterites dealt with winter on the Canadian prairie. It is revealing, not misleading, to compare Jamestown to settlements that faced harsher conditions more successfully. It also is fair to compare the two Jamestowns: the one before and the one immediately following

Governor Dale's mandated privatization. What distinguished the first Jamestown from the second was not the harshness of its natural setting but rather the thoroughness with which it prevented people from internalizing externalities.

Sociologist Michael Hechter considers group solidarity to be a function of (a) the extent to which members depend on the group and (b) the extent to which the group can monitor and enforce compliance with expectations that members will contribute to the group rather than free ride upon it (Hechter, p. 21). On this analysis, it is unsurprising that Hutterite communal society has been successful. Members are extremely dependent, for their upbringing leaves them unprepared to live in a non-Hutterite culture. Monitoring is intense. Feedback is immediate. But if that is the secret of Hutterite success, why did Jamestown fail? They too were extremely dependent on each other. They too had nowhere else to go. Monitoring was equally unproblematic. Everyone knew who was planting crops (no one) and who was bowling (everyone). What was the problem?

The problem lay in the guarantee embedded in the Jamestown colony's charter. Jamestown's charter entitled people to an equal share regardless of personal contribution, which is to say it took steps to ensure that individual workers would be maximally alienated from the fruits of their labors. The charter ensured that workers would think of their work as disappearing into an open-access commons.

Robert Goodin says, "Working within the constraints set by natural scarcity, the greatest practical obstacle to achieving as much justice as resources permit is, and always has been, the supposition that each of us should cultivate his own garden" (Goodin, 1985, p. 1).^{viii} However, Jamestown's charter did not suppose each of us should cultivate his own garden. It supposed the opposite. Colonists abided by the charter, and even while they suffered, people in other colonies were tending their own gardens, and thriving.

We should applaud institutions that encourage people to care for each other. But telling people they are required to tend someone else's garden rather than their own does not encourage people to care for each other. It does the opposite. It encourages spite. The people of Jamestown reached the point where they would rather die, bowling in the street, than tend the gardens of their free-riding neighbors, and die they did.

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- ⁱ Is it fair for latecomers to be excluded from acquiring property by rules allowing original appropriation? Sanders (1987, p. 385) notes that latecomers “are *not* excluded from acquiring property by these rules. They are, instead, excluded from being the first to own what has not been owned previously. Is *that* unfair?”
- ⁱⁱ Nash (1996) says fishermen currently pump 330,000 pounds of cyanide per year into Philippine reefs.
- ⁱⁱⁱ I thank Peggy Fosdick at the National Aquarium in Baltimore for correspondence and documents. See also Fosdick and Fosdick (1994).
- ^{iv} A private non-profit organization, The Nature Conservancy, is pursuing such a strategy. Although not itself an original appropriator, it has acquired over a billion dollars’ worth of land in an effort to preserve natural ecosystems. Note that this includes habitat for endangered species that have no market value.
- ^v This was not true everywhere. I have seen places where tribes hunted bison by stampeding whole herds over the edge of a cliff. (The Blackfoot name for one such place translates as “head-smashed-in buffalo jump.”) So I accept Dukeminier and Krier’s warning against forming “an unduly romantic image of Native American culture prior to the arrival of ‘civilization.’ There is considerable evidence that some American Indian tribes, rather than being natural ecologists who lived in respectful harmony with the land, exploited the environment ruthlessly by overhunting and extensive burning of forests” (1993, p. 62).
- ^{vi} This essay discusses Ellickson’s article in some detail. While I take little credit for the ideas in the next few sections, any errors are presumably mine.

vii Of course, no one thinks governance by custom automatically solves commons problems. Custom works when local users can restrict outsider access and monitor insider behavior, but those conditions are not always met, and tragedies like those discussed in section 2.2 continue to occur.

viii Goodin and I debate the issue at length in Schmitz & Goodin (1998).