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## DECOMPOSITION OF PROPERTY RIGHTS

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### Abstract

This chapter summarizes the literature relating to the decomposition of property into packages of less than full ownership in the United States and United Kingdom. It does not include specialized areas of law such as Oil and Gas Law and Water Law. Ownership of land is commonly divided by geography into parcels, by time into leaseholds and other estates, and by use into dominant and servient tenements. Some of these divisions, such as leaseholds, have received substantial economic attention and developments in the landlord-tenant debate are reviewed here. Other divisions, such as other temporal estates and servitude doctrines, have received only occasional economic analysis. For these topics, suggestions relating to possible economic justifications are added to the summary of points made in the literature.

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### 1. Introduction

In light of the importance of property to the economic system and the tremendous attention to transaction costs since Coase (1960), it seems somewhat odd that the particular rules of English property law, which impose costs on land transactions, have received relatively little attention from economists. Perhaps this is because the English common-law system of property rules is both flexible enough and generally inexpensive enough that it causes no large and obvious drag on commerce. Nevertheless, the rules governing subdivision or decomposition of property rights have received some attention from law and economics scholars. The purpose of this essay is to review some of the literature relating to ways in which rights in land can be divided and suggest explanations for existing decompositions of property.

To start, it should be noted that economics and property law meet in at least two fundamentally different ways. In the standard analysis, researchers have attempted to determine the allocative and welfare effects of various

legal rules and regimes. Both economists and lawyers have, in a positive vein, tried to explain and predict behavior of individuals and, in a normative vein, criticized the law and proposed reforms based on those predicted behaviors (for example, Epstein, 1982; Hirsch, 1983). Second, in a nonstandard application, economically oriented analysis has occasionally (Posner, 1998; Krier, 1974; and Stake, 1988) been used by lawyers to explain the legal behavior of judges in a way that makes the law more predictable, clarifying the law where the legal rules have previously had vague content. The latter is not an application of Public Choice theory, although the two have similar goals. It is instead an attempt to predict or explain the results of cases by developing specific hypotheses from the general proposition that judges decide cases in accordance with efficiency, that is, that judges prefer efficient outcomes. Third, and related to the second application, Hirsch (1987) has reviewed the extent to which lawmakers appear to be aware of the economic characteristics of the markets their laws are affecting. Readers should also note that, in a substantial portion of the literature relating to specific rules of property, economists and law scholars seem to be talking past each other. Economists can find articles lacking in rigor and lawyers can find articles that seem to state obvious legal practicalities in complicated terminology.

Before a private party can divide her rights in land, she must both have some rights and have the right to transfer her rights. One basic topic, therefore, in the decomposition of property is whether and to what degree private parties have the right to alienate their rights. In one sense, this is a definitional matter: is the right to transfer inherent in the bundle of sticks we call 'property'? The right of alienation is the first topic discussed below.

Once owners have the right to divide and transfer their interests, rights in land can be divided in at least three ways. First, and most obvious, land rights are divided spatially. In addition to the ordinary horizontal division of land by region, the common law allows vertical division into surface estates and subsurface estates, useful to miners and spelunkers. Although there are economic studies of optimal size of landholdings for uses such as farming, the law and economics literature on spatial division of rights in land is not extensive, perhaps because there is not much law to study. One major exception to this generalization is the substantial literature on takings law, within which one topic is whether geographic areas can be segmented by landowners hoping to establish a taking of a small part where the remaining portion has not been affected.

Second, land rights can be divided temporally. Indeed, under early English common law, land rights lasted no longer than the life of the feudal tenant. An obvious inefficiency of that system was that improvements to the land lasting longer than the tenant would redound to the benefit of the overlord. Perhaps in part to internalize these positive temporal externalities,

the law soon allowed a tenant to acquire rights that would survive his death. The literature on subdividing rights by time, including the substantial literature on landlord-tenant law, is discussed after tenurial systems.

Third, rights in land can be divided according to use. One person can have nearly complete dominion over a piece of land while another person holds a right to put the land to some limited use, such as walking across it to get to town. The multiple and confusing common-law doctrines of covenants, equitable servitudes, easements and profits govern this area of law, along with more modern zoning rules imposed by legislatures. The common-law doctrines controlling private division of land by uses are discussed, jointly and severally, after temporal divisions.

Decomposition of property rights has become an issue of constitutional importance in the United States. The Fifth Amendment prohibits the government from taking property without paying just compensation. The difficult issue is often whether 'property' has been taken. If the government deprives an owner of all her rights in all her land, a taking has occurred. And if the government divides the rights spatially or temporally or both, taking all rights in some of the land for some substantial period of time, a taking has occurred. But if the government divides rights along the dimension of use, prohibiting some uses and allowing others, it is hard to tell whether the rights taken were enough to call property. The US Supreme Court's answer does not turn solely on the absolute or proportional degree of financial deprivation. The answer also depends on whether the regulation deprives the owner of an ongoing use. This portion of takings doctrine has been defended by Stake (1995) on the ground that depriving persons of longstanding uses carries especially high costs, higher than would be recognized if the value of the loss were calculated by reference to the amount the owner's would be willing to pay to acquire the rights taken.

## **2. Limited Alienation of Property - Land Tenure Systems**

The topic of land tenure systems sits between the general theory of property and the private subdivision of property rights. The question is what happens when private owners are not allowed to have full rights in land. A right sometimes missing from the property bundle is the right to alienate other rights.

By the Statute *Quia Emptores* in 1290, English landholders gained the right to transfer their interests to others without asking for consent of the overlord, who in important ways played the role of the modern state. Prior to that time in England, and more recently in other places, landholders lacked complete freedom of alienation. From their beginnings, all American states

have allowed landowners to transfer their rights to others. So well ingrained is this right that it seems odd that it could be otherwise.

Despite a long heritage of free alienation, the United States government has not extended that right to many American Indians holding Reservation lands. As a result of various statutes and changes in policy, Indian Reservation lands are held in three types of tenure. Some Reservation lands are held in legal fee simple by individuals, both Native American and not, and are completely alienable. Some lands are held by Native American tribes, but legal title lies in the United States, so the tribes cannot alienate the lands. Similarly, some lands are held by individual Native Americans, with legal title resting in the United States, again with the result that the lands are inalienable.

Economic theory would predict that where rights cannot be transferred, productivity will suffer. Omotunde (1972), applying the analysis of Coase (1960), Alchian (1963) and Demsetz (1964, 1966) to land tenure, argues that restrictions on the sale of land reduce investment in land by making it difficult to borrow for improvements and by limiting an owner's ways of capturing his investment. He concludes that there must be freedom and legal enforcement of sale and rental contracts for a system of land tenure to facilitate wealth increases.

The three types of land tenure existing on Indian Reservations presented Anderson and Lueck (1992) with an opportunity to study empirically the effects of tenure on land productivity. Where Native Americans cannot offer the land as security for a loan, costs of borrowing will be higher and capital investment will be lower. Where they cannot sell their interests, it becomes harder for an owner to gather parcels into a farm of optimum size. Difficulties in transfer during life increase the frequency of death-time transfers and thus the frequency of devolution by intestate succession which divides ownership. Multiple ownership leads to decreased investment of labor by owners because the benefits of the effort will fall in part on other owners. Multiple ownership, which entails sharing of inputs and output, may also cause owners to avoid the most valuable use if the input to or output from such use is comparatively harder for multiple parties to monitor.

Anderson and Lueck find that per acre value of agricultural output is 85-90 percent lower on tribal-trust land than on fee-simple land and 30-40 percent lower on individual-trust land than on fee-simple land. The authors did not, however, convincingly rebut the possibility that the lands held in individual or tribal trust were simply less productive lands than the average lands held in fee. They stated that the patterns of ownership appear random on the map, but untillable mountain peaks might also appear random on a map. They also argued that the determinants of value are probably different today than when the parcels were allotted, but for agricultural land that

seems dubious. The authors published data from the US Department of Agriculture relating to relative land quality. On average, trust land has a lower percentage of land in the top four land-capability categories, but the authors say that the difference is not sufficiently strong to reject the hypothesis that the land is equivalent. (Given the small number of observations on quality,  $N = 13$ , it would have taken a large difference in quality to reject the null hypothesis.) That the difference in rated capability is not strong enough to be significant does not mean that the difference might not indeed influence the actual land productivity. In addition, considering the obvious potential relationship between land quality and productivity, it is unfortunate that there were quality classification data for only 13 reservations.

The article does not discuss a relatively recent legislative attempt by the United States to reduce the number of owners of Native American lands. Congress passed a law providing that, at the death of the owner, small fractional interests in individual trust lands would pass to the tribe instead of the intestate successors or devisees. This attempt to improve the productivity of Indian lands was struck down by the US Supreme Court (*Hodel v. Irving*, 1987) because depriving fractional interest holders of their ability to pass those interests at their death takes property without just compensation. Thus Congress's long history of failure to deal effectively with Indian lands continues.

Comparing the history of Congressional control of Indian ownership to English history shows the economic importance of a good fit between law and culture. In common-law England, when a landowner died his lands passed according to the rules of primogeniture, under which the eldest male child took full title. Primogeniture did not divide land into fractional interests that could lead to ineffective use. By the time modern rules of intestate succession were adopted, hundreds of years of experience had created an English cultural expectation of individual ownership. The English, culture-based tradition of individual ownership counteracted the tendency of the modern law to subdivide ownership; private transfers kept most lands from being held by too many hands. The Native Americans, upon whom the US Government forced individual ownership and fractious laws of succession, had a different cultural heritage, one of tribal ownership or no ownership at all. Native American culture, being less oriented toward individual control, could not counter the sterilizing tendency of the modern rules of heirship.

The problem of alienability arises in a different way in connection with long-term leases. Historically, common-law courts have allowed landlords to impose restrictions on the alienability of leaseholds. By inserting the necessary terms in a lease, landlords could retain to themselves the legal power to prevent alienation without their consent. Courts upheld these

clauses without concern for whether the landlord withheld consent unreasonably or arbitrarily. Recently, it has appeared to observers that some American courts will no longer let landlords prevent alienation by tenants. However, it is also possible to read some of the decisions as merely requiring landlords to express clearly their retention of an absolute veto, a requirement which would reduce tenants' information costs.

Johnson (1988) argues that restrictions on alienability serve legitimate purposes and, hence, the modern trend toward limiting the scope of restrictions will lead to inefficiency in the law. Landlords need to be able to keep tenants from leasing to new tenants whose occupancy might injure the value of the landlord's reversion. Because they cannot easily specify in advance all of the ways in which potential new tenants might injure their retained interest, landlords often need complete discretion to reject the transfer of the leasehold. Without that power, landlords will forsake the long-term lease in favor of otherwise less-efficient alternatives such as short-term leases. In addition, Johnson argues that requiring landlords to be more clear in their retention of unfettered discretion to veto transfers may be quite costly. He does not describe in practical terms, however, why it would be especially costly for landlords to specify 'sole, absolute, and unfettered discretion' in their leases in order to retain unconstrained veto power.

### **3. Temporal Division via the Estate System**

The English common-law system allows a number of different 'estates' in land, each estate varying in potential duration. A 'fee simple' lasts potentially forever. A 'life estate' lasts for the life of a person, usually the holder of the estate. A 'term of years' is measured by a period of time. All of these estates can be made 'defeasible', by attaching a condition specifying the circumstances in which the estate terminates prematurely. For example, a transfer 'to the City as long as the land is used for a public park' creates a fee simple determinable, an estate that could last forever but will terminate earlier if the land is not used for a public park. With the exception of the fee simple absolute, in which the owner holds perpetual rights, each of the estates above divides rights according to time, with the holder of the named estate holding the present possessory rights and at least one other person holding a 'future interest' which will become possessory when the present estate terminates.

It is plain that dividing rights temporally may increase the utility of land. A student may need a place to live for only a year and have no desire (or capital) to invest in ownership that lasts forever. A teacher taking sabbatical leave may have no interest in possession for that year, but a strong interest

in the right to possession forever thereafter. A one-year lease divides the ownership of the land to accommodate both interests and maximize the value of the land.

Stake (1990) argued that some forms of divided ownership, those hinging on contingencies that might occur in the distant future, diminish rather than increase the utility of land to living persons. The empirical evidence for this proposition is that those temporal divisions of rights are made primarily in gifts (often testamentary gifts). Because such divisions are rarely, if ever, found in transactions in which two or more parties exchange rights to produce gains from trade, there is good reason to doubt that creating such interests increases value. Of course the act of dividing the ownership makes the donor happy, and that utility added to the values of the present and future interests will probably be greater than the value of a fee simple absolute. But after the donor dies, which is sometimes the instant the two interests are created, the donor's utility drops out of the sum and the remaining values are together less than the value of a fee simple. One economic function of the Rule against Perpetuities, which eliminates remote future interests, is to help reunite multiple interests into a more valuable fee simple.

The possibility of negative externalities is created whenever land rights are divided according to time. A life tenant might fail to make repairs to existing buildings because the repair costs will fall solely on the tenant but the costs of not repairing will fall in part on the 'remainderman' holding the future interest. To the dismay of his landlord, a tenant with a one-year tenancy might cut down valuable trees to use for firewood despite the trees being worth more, in the long run, alive. The common law partially internalized negative temporal externalities by the doctrine of 'waste', which makes the present estate holder liable to the holder of the future interest for actions that damage the land in a permanent way. Interestingly, the doctrine of waste also acknowledges the subjective value of land in its rule that merely changing the character of land can be waste even though the change increases market value. Posner (1998, pp. 83-84) points out that present and future estate holders could in theory prevent inefficient maintenance by agreement, obviating the need for the doctrine of waste, but that negotiations may bog down in bilateral monopoly problems. Furthermore, the future interest holders are often minors who lack the capacity to contract.

The converse of the waste problem is that of positive externalities. The present estate holder may fail to make efficient improvements to the land because he bears the burdens of the improvements while some of the benefits accrue to the holder of the future interest, who takes possession when the present possessory estate terminates. With a nod to Coase, Posner (1998, p. 82) asks and answers why multiple owners cannot solve the problem of

inadequate investment by contract. The possessory estate holder often lacks the endowment to make major capital improvements and the future interest holders may be hard to identify or lack the capacity to strike an enforceable bargain. The law plays an important role in regulating land use when ownership is divided.

#### **4. Leaseholds**

Landlord-tenant law is one area in which there is both a substantial literature and one that speaks to scholars from both the economics and law perspectives. Limitations on the alienability of tenant interests and on landlords' rights to evict have been blamed for inadequate investment in improvements to land. Solow (1971) discussed the problem in connection with poverty in nineteenth century Ireland. Basu (1989) added that landlords wanting to make an offer to share the costs of improvements face an adverse selection problem in that only the tenants who expect to stay long enough for their investment to be repaid will accept the offer, leaving the landlord with inadequate return on his contribution.

Leases can have many functions, such as spreading risk (Cheung, 1969) or creating appropriate incentives for development and husbandry (Allen and Lueck, 1992; Williams, 1979a; see also Lueck and Allen, 1996). In the context of leasing personalty, Flath (1980) discussed how leases can economize on transaction costs such as identifying, assuring and maintaining quality. Those topics and many others in commercial leases are more a matter of contract law and are analyzed primarily with contractual analysis and thus are outside the scope of this chapter. One early use of leasehold estates may have been to avoid the ecclesiastical prohibition of usury. When the law prevented lending of money at market interest rates, a lender could avoid usury by transferring money in return for the borrower's (landlord's) transfer of an estate in land. The lease would be designed so that the periodic rents from the land during the term of the lease would be sufficient to pay both the principal lent and the desired interest (see Simpson, 1986, p. 72).

Residential leases raise additional issues. Under the common law, landlords had few obligations with regard to the leased premises. Recent law reforms have attempted to force landlords to deliver habitable premises at an affordable price. The standard economic analysis of reforms designed to benefit residential tenants is presented entertainingly (that is, at the expense of lawyers) in Albon (1982). Assuming that supply decreases with price and shifts as landlords' costs increase and that such marginal costs exceed marginal values to tenants, the results of reform are not favorable to tenants. If rents are not controlled, rents will increase by more than the value of the

increased housing services to tenants. Under such conditions, the reforms force tenants to buy housing services they do not wish to buy. If rents are controlled, demand will exceed supply and a shortage will develop, housing search costs will increase for tenants, and landlords will discriminate more. Schwallie (1990) argues that, because investors are risk averse, increased uncertainties caused by law reform will reduce the attractiveness of the return from rental housing. In a neighborhood with declining values, the application of housing quality minima may hasten the withdrawal of units from the market and increase discrimination against riskier tenants.

Hirsch, Hirsch and Margolis (1975) state that repair-and-deduct remedies may be an inefficient means of housing code enforcement for a number of reasons. Landlords, being specialists in housing, often have more experience than residential tenants in making repairs or finding an appropriate tradesman. Tenants have little reason to monitor the quality of the work, as long as it serves their temporary needs. Landlords have access to all portions of the building and can coordinate related repairs and improvements.

On the other hand, tenants, who often learn of problems before landlords, are more likely to make repairs before they become costly if they know they can deduct the cost. In addition, tenants might make more efficient repairs because they will make no more repair than they think is needed.

Nevertheless, landlords are repeat players. They are likely less transient than residential tenants and thus will know local repair firms. More important, once landlords recognize that ignoring tenant requests for repairs leads to their paying for inefficient repairs, they will become more responsive to tenant requests. The inefficiency of self-help by tenants can be seen to be like the costs of incarcerating criminals; some loss is justified to deter wrongdoing. The repair-and-deduct remedy might be a low-cost way of getting landlords to pay attention to tenant complaints.

Markovits (1976) argues that the standard economic analysis is wrong in a number of ways. Some tenants, such as children, will value the mandated services more highly than their cost and those tenants will gain from law reform. Reform requirements can also be allocatively efficient if they require housing improvements that create benefits, such as reduced fire, disease and crime, that are external to the person who pays the rent.

Almost all reforms of landlord-tenant law were designed to improve the life of tenants by shifting rights from landlords to tenants. But empirical work indicates that the reforms have hurt many tenants (Hirsch, Hirsch and Margolis, 1975; Hirsch, 1980, 1981, 1983, 1984, 1987; Rydell, 1981; and Schafer, 1979). If that is so, why have the habitability reforms been so popular? Posner (1998) suggests that competing approaches to helping impoverished tenants require spending and taxing, whereas habitability reforms seem to eliminate poor housing without any public expenditure. On

the other hand, one might speculate that the passage of reforms increasing housing quality unaccompanied by rent controls might be explained as a rational attempt by tenants whose income has increased to increase their housing quality without incurring the costs of moving.

### **5. Division of Land by Usage**

This entry now shifts from division of land ownership by time to division by use, where one person holds the right to control one use while another holds the right to control remaining uses in the same land at the same time. Someone having the right to possess land holds an 'estate in land'. Easements and profits, along with covenants and servitudes, are not estates in land, but they are interests in land. Examples include a utility company's easement to bury service lines under private lawns or a neighbor's equitable servitude preventing an owner from using his home for a business. A promise by an owner to keep his driveway cleared might be found by a court to be a covenant, a servitude, or an easement. Land-use doctrines govern the separation of such non-possessory rights from the rights of possession ordinarily thought of as ownership. The next sections address the enforceability, outside the landlord-tenant context, of easements, profits, licenses, covenants and servitudes.

The basic economic rationale for allowing the set of all rights to use a piece of land to be carved up into smaller packages of rights would appear to be the same as the rationale for allowing the ownership of a farm to be broken geographically into tracts for a subdivision or allowing the ownership of one lot to be sliced temporally into the rights of landlord and tenant; the sum of the parts can be worth more than the whole.

Assume that it is worth \$200 to Sara, who owns Blackacre, to be able to walk across her neighbor Ben's pasture on Whiteacre to get to town. Assume also that Ben feels a loss of less than \$100 from Sara's walking across the pasture. As with any contract, Ben and Sara could improve their positions by an exchange, in this case Sara's \$150 for Ben's allowing her to walk across Whiteacre. The land-use situation differs from the ordinary contractual situation, however, in that Sara's real interest is not just in Ben's consent, but in the consent of all future owners of Whiteacre (see Dunham, 1965). Sara's goal cannot be achieved by contract because Ben cannot bind his successors to perform his contract.

The problem is solved by separating out the right to determine whether the owner of Blackacre can walk across Whiteacre to get to town from the other rights in Whiteacre. Over the centuries, the tremendous gains to be had from exchanging rights to control the use of land have driven owners to

seek legal mechanisms to accomplish those exchanges. And courts have obliged. As Korngold (1990) puts it, with servitudes people do not have to acquire more rights than they want.

The interesting economic issues relate not to why rights in Whiteacre can be subdivided according to usage, but rather why the law fetters the subdivision of rights, as it does, and whether there is any current utility to having multiple doctrines with differing rules by which rights are subdivided. Many of the restrictions have yet to be supported with an economic rationale. One concern, supporting constraints, is that subdivision of rights will lead to situations in which later purchasers think they are buying complete packages of rights when, in fact, they are not. During the initial development of the common law, England had no recording system to give purchasers notice of outstanding non-possessory interests in land. Without such a system, mistakes and fraud become likely, reducing the liquidity of land markets and undermining the basis for assuming that a voluntary exchange of rights is a Pareto improvement.

Curtailing the number of non-possessory interests with restrictive doctrine reduces the occasions for incomplete or false information. In addition, peculiar restrictions and obligations impressed on land by a capricious or imprudent owner may continue to burden land in perpetuity. Indeed, if severe enough, such private restrictions could deprive the land of its productive power forever. In part for those reasons, judges and scholars have been quite reluctant to allow burdens to run to successors and have imposed the many limitations found in land-use doctrine.

As a means of controlling uses of land, servitudes of one form or another should be compared to and contrasted with zoning. Servitudes are created by private parties, whereas zoning is imposed by public entities, local governments. Following Siegan (1972) and Ellickson (1973), servitudes are often discussed as an alternative to zoning (see Speyrer, 1989). As is obvious from thousands of modern developments, however, public and private controls are not mutually exclusive and often have different functions.

Fischel (1990) noted that zoning is often easier to revise, at least compared to covenants requiring unanimous consent. Hughes and Turnbull (1996) contended that things that are inherently difficult to adjust, like lot configuration and basic type of use, are better candidates for regulation by zoning. By contrast, they said, activities that are easily adjusted by subsequent landowners, like yard plantings and automobile parking, require more rigid intertemporal regulation and would be better regulated by covenant.

## **6. Easements, Profits and Licenses**

An easement appurtenant can be used for the benefit of the dominant parcel only. Suppose Ben, Sara and Janet own lots 1, 2 and 3, in a row, and Ben grants to Sara an easement so that she can get from her house to the road passing Ben's lot. Sara then buys Janet's lot and decides to build a new house on that lot. Sara cannot use her easement for the benefit of lot 3 even though there is no more harm to Ben than he anticipated when he granted the easement. This rule obviously puts Ben and Sara in a bilateral monopoly situation, with the possible result that a Pareto-improving exchange of rights will not take place because of strategic bargaining. One justification for the rule is that in most situations, unlike the example above, the extension of an easement to benefit parcels other than the dominant tenement will indeed generate greater costs to the servient land, and it is administratively easier to lump all extensions together than to sort out the harmless extensions from the bulk. The rule also creates an incentive for the holder of the easement to negotiate with the servient owner before extending or modifying her use of the easement in any way. Nevertheless, it would seem that courts might be justified in rejecting this rule.

Easements can be created by express or implied grant or reservation and, unlike real covenants and equitable servitudes, can be created by prescription (longstanding use). Like real covenants and equitable servitudes, easements can be divided into negative (or restrictive) easements and positive (or affirmative) easements. Early English decisions recognized four types of negative easement: easements of light, air, building support and flow of water in artificial streams. In most American states, a landowner has no right to sunlight coming across his neighbor's land. Because of increased interest in solar energy, some reformers have argued that either nuisance or prior appropriation rules should be applied to protect persons who install solar energy devices from being shaded by subsequent development (for a critical discussion, see Williams, 1979b). Reform advocates have failed to recognize, however, that private allocation of rights should suffice because current law defines solar rights clearly and allows for their alienation at low cost (by restrictive covenant) and freerider and holdout problems are minimal because rarely are more than a few owners involved.

For a number of reasons, courts cabined the development of negative easements with the rule that only four types could be created; no new forms were allowed. One economic rationale is that negative easements are harder for prospective purchasers of the servient parcel to discover than affirmative easements, such as shortcut footpaths. Observability was important because property could be burdened by an easement even if the purchaser had no notice of it.

A person who uses land of another in a particular way for a long time may gain an easement by prescription, which allows that person (and possibly her successors) to continue making that use of the land. In light of the ease of *ex ante* contracting, it is unclear whether this ability to gain rights by wrongful act can be justified. It is some evidence of the questionable merits of the doctrine that in 1966 the Law Reform Committee debated total abolition of prescription in England. However, the closely related doctrine of adverse possession has been defended on the ground that depriving a longstanding user carries a higher cost than refusing to honor the meritorious claim of a non-user (Stake, 1995). Perhaps prescription might be justified on a similar rationale.

The rules of prescription provide a good example of path-dependent evolution in the law. The possibility in England that negative easements could be created by prescription explains the English judicial reluctance to allow new types of negative easements. If new types of negative easements could be created by longstanding non-use, any new use of land could be met with a neighbor's objection that she had a prescriptive negative easement preventing such use. The law could not allow new sorts of negative easements to be created by prescription without creating great uncertainty about changing the use of lands. In America, where most courts have held that negative easements cannot be created by prescription, allowing new sorts of negative easements is not so problematic and need not be proscribed.

Easements may terminate by their own terms, by express release, by adverse use, or by abandonment, though the latter is hard to prove. Easements terminate by the ancient doctrine of 'merger' if the servient tenement and the easement come into the same hands. In such cases the easement is not created anew when the once-dominant or once-servient parcel is sold. This rule creates problems for future holders of the dominant parcel that wrongly assume the old easement still exists. However, the merger rule can be justified on the simple ground that it reduces the costs of selling the unencumbered fee in the future; the seller of the once-servient parcel need not specify that he is transferring both the previously encumbered fee and the right to be free of the encumbrance. On the reasonable assumption that sellers wish to transfer all their rights more often than they wish to transfer a previously divided subset of their rights, the rule reduces transaction costs.

A profit (or '*profit à prendre*') is a right to sever and remove some substance, like minerals, gravel, or timber, from land possessed by another. The common-law rules governing ownership of fugacious mineral rights were borrowed from the rules applied to the capture of wild animals.

Because those rules created common-pool problems and led to massive waste, they have been superseded by statutory regimes.

## **7. Real Covenants**

Whereas easements and profits usually involve rights of the dominant owner to do something without interference from the servient owner, real covenants and equitable servitudes usually involve promises by the servient owner that he will do or not do something, such as maintain a wall or make noise on a Sunday. The two groups of interests overlap somewhat in the area of negative easements.

A real covenant is a promise. It is different from a contractual promise in that a real covenant is stuck to some interest in land and passes automatically to each owner of that interest rather than staying with the original party to the promise. The law of real covenants sets forth a number of 'elements' that must be met for a promise to 'run' with land: as covenants, they must be in writing; they must be intended to run; they must 'touch and concern' the land rather than being irrelevant to the ownership of interests in land; there must be 'horizontal' and 'vertical' 'privity of estate', abstruse requirements explained below; and under modern recording acts grantees of the affected interests in land must have notice of the covenants.

These requirements apply separately to the burden (duty to perform) and the benefit (right to performance) of the covenant. Whether the burden runs to future holders of the servient parcel and whether the benefit runs to holders of the dominant parcel are, for the most part, independent issues. The covenanting parties must intend, for example, that the burden of the promise run to the successors of the burdened party for the burden to run and must intend that the benefit run in order that the benefit run. An examination of the doctrinal elements follows next.

### *Intent*

We can be reasonably confident that the parties to a real covenant will reap gains from their exchange only if the law enforces what the parties intended. If the law expands the rights exchanged, the chances that the outcome will not be a Pareto improvement increase dramatically. Furthermore, if covenanting parties thought the law might increase the duration of the rights exchanged beyond what was intended, they might pass up a beneficial exchange. Therefore, it is essential that courts find that the parties intended for the promise to run before holding that it does so. Winokur (1989) contends that courts are all too willing to find intent, essentially dispensing with the requirement as an independent element. In order to assure more

meaningful consent, he urges that courts require some explicit language expressing the parties' intention that the covenant run.

Although the running of the benefit and burden are usually independent, English (see *London County Council v. Allen*, 1914) and a few American authorities have linked the two. These authorities hold that the burden of a real covenant will not run with land if the benefit is 'in gross'. The cost of this rule is that it prevents many beneficial divisions of rights in land. Suppose, for example, a talented gardener has worked hard to make his house a showcase for his horticultural abilities. Suppose also that his family has outgrown this house, and he would like to sell if he could be assured that his successors would maintain his garden. He cares what happens to his garden no matter where he moves; he wants to hold the benefit in gross. If the running of the burden is tied to the running of the benefit, he cannot hold the benefit in gross, and he must forego the sale or give up control of his garden.

The advantage of this intent-frustrating rule is that it makes a real covenant easier to terminate by private negotiation because it will usually be possible to find the holder of the benefit since it is tied to land. If the benefit is not tied to land, a successor willing to pay more than the gardener's price to convert the garden to another use might have a hard time finding the gardener. Thus transaction costs could prevent the successor from buying his way free of the promise. The requirement that the benefit run with land helps keep down the costs of terminating promises. This justification seems to have failed to convince most American commentators, perhaps because the problem of locating benefit holders could be solved less confiningly by legislation requiring holders of benefits in gross to place their mailing address on record if they wish to keep the promise from lapsing.

#### *Touch and Concern*

Courts require that the benefit of the real covenant touch and concern (or 'touch or concern') Blackacre for the benefit to run to the owner of Blackacre and that the burden touch and concern Whiteacre for the burden to run. Reichman (1978) points out that the touch and concern element is the only real barrier to the attachment of a promise to land. He clarifies, however, that it does not prohibit any particular agreement, it merely shifts the burden of negotiation once a parcel has been transferred. If the promise does touch and concern the new neighbors have to negotiate if they want to terminate the covenant. If the promise does not touch and concern, the new neighbors have to negotiate if they want to reinstate the promise.

A promise to keep a party wall in good repair touches and concerns, but promises to pay money, promises enforcing ideologies and promises for personal services usually do not. Some promises have proved hard for courts to categorize, and this touch and concern element has long been criticized as

being 'indeterminate'. Rarely, however, do the critics identify an actual case that has been decided badly because of the touch and concern element. Rather, Epstein (1982) has said, the harm from indeterminacy is that it generates litigation, increases the costs of exchanges, or dissuades parties from using covenants.

The amount of litigation generated by the touch and concern requirement remains uncertain. The reported appellate cases in the United States in the twentieth century in which that element has played an important part number only in the hundreds. A Lexis search on 10 August 1996 for 'touch and concern and (covenant or servitude)' in the 'mega' file containing all US federal and state cases yielded 264 cases. Although the reported appellate cases are just the tip of the iceberg, this tip is so small that the whole might not be of huge concern. It is unknown to what degree the touch and concern element deflects parties from desirable transactions or raises the drafting costs of completed transactions.

The element may be less indeterminate than the critics suggest. According to one extensive examination of American cases, Stake (1988), the element can be understood as a mechanism for efficiently allocating the burden and the benefit of the promise. If the benefit of the promise is likely to be enjoyed more by the successor than the original promisee, the court will find that the benefit touches and concerns. In other words, the benefits will be allocated to the person who would enjoy them most.

On the burden side, courts act as if they assume the promise will be performed and the question is by whom. If placing the burden of performance on the successor to the promisor would avoid inefficiencies that would result from leaving the burden with the original promisor, the court will find that the covenant touches and concerns. In some cases it is a simple matter of allocating the burden to the party that can perform the obligation more easily. For example, the new owner of a barn is better able to perform a promise to keep the barn painted because he can monitor its condition and has easy physical access when it is time to paint. In other cases the court improves the allocation of resources by avoiding situations having more subtle inefficiencies, such as when the court passes burdens to pay homeowners association dues on to those who will be spending those dues. If the court were to find that the covenant did not touch and concern, the homeowners in charge of the association would in theory have the power to make improvements and charge them to former homeowners, a group not represented in the decisions to purchase.

There are other economic tests for determining whether a covenant touches and concerns land. Under one, a covenant touches and concerns if it was set up to regulate externalities generated by the use of one parcel (see Nelson, Stoebuck and Whitman, 1996). Another intuitive approach is to ask

whether ownership of some particular land makes the burden easier to perform or the benefit more enjoyable. Neither of these latter two approaches will, however, predict the court's decisions in homeowners association dues cases as accurately as the efficiency approach first stated. In many cases challenging the running of homeowners association dues, the courts have upheld the promises to pay dues, finding them to touch and concern the land despite the usual rule that the burdens of promises to pay money do not touch and concern. The externalities approach does not explain this result because homeowners association dues are often not imposed in order to regulate externalities created by the use of land. The intuitive approach does not predict the judicial results because it is not significantly easier for the successor to pay the dues than the original promisor.

Successful positive explanation of touch and concern does not as a normative matter justify the element's interference with the parties' intent that the covenant run. Reichman (1978) defended the touch and concern element on the ground that tying to land the sorts of promises that do not touch and concern to land could reduce efficiency, democracy, or personal freedom.

Stake (1988) developed a justification of the touch and concern element that focussed on the asymmetrical costs of rectifying judicial mistakes. The effect of the touch and concern element is to keep promises from running to successors. The starting point for the analysis is that people make mistakes. When the original parties err in predicting the preferences of their successors, the touch and concern limitation will beneficially prevent the perpetuation of the inefficient promise. When the original parties correctly predict the preferences of their successors, that limitation deprives the successors of the benefits of the exchange. The key to the beneficial operation of the touch and concern element is that the costs of privately rectifying errors of the parties and errors of the law are asymmetrical.

Assume that a group of neighbors agreed that they and their successors would play poker together once a week. Assume that one of them sells to a new owner who refuses to play poker. If the group tries to enforce the covenant, the court will not enforce it because the burden fails to touch and concern his land. Assuming that this covenant as applied to the new owner has become inefficient, generating less wealth than it costs to perform, the judicial refusal to enforce it against the new owner enhances efficiency. This non-enforcement is valuable because it might not be accomplished easily by the parties. Because all of the parties must agree to let one player out of the group, all are in a position to hold out. Thus, the touch and concern element beneficially prevents some inefficient promises from running against parties that might find it hard to buy their way free of the obligations.

Assuming, on the other hand, that the old covenant generates more good than harm for the new parties, the element causes the court to keep an

efficient agreement from running. This error, however, is relatively easy for the parties to remedy. When a covenant for the new group of neighbors to play poker would be efficient, transaction costs will rarely prevent the negotiation of that new covenant. No owner has the power to hold out or free ride because no owner is necessary to the agreement; the group can simply get someone else to play. Therefore, private extension of the erroneously limited covenant is comparatively unproblematic. The very fact that the covenant does not touch and concern helps to assure us that the judicial error will not be difficult to reverse.

The touch and concern element might also be criticized for depriving some promisees of the benefit of their bargain. However, if the covenant fails to touch and concern it presumably remains enforceable against the original promisor. The mistaken promisee loses a remedy against the successor, but gains a remedy against the original promisor that would have been lost if the burden had run. Thus, the distributional effects of the touch and concern element are mitigated.

The American Law Institute (1991) proposes to supercede the touch and concern element with a judicial inquiry into whether the promise in question violates public policy. It is not clear how this approach will make the law more determinate. Nor is there any assurance that this new test will interfere less with private intent, since the traditional touch and concern approach has prevented few covenants from running. It is also not apparent how the new test could take advantage, as the traditional test does, of the asymmetrical costs of repairing judicial and private error. Finally, the touch and concern element in no way impedes enforcement of the promise between the original parties, as the reformed test could, judging by the language of Section 3.1 of the Third Restatement. Recommending the superseding of touch and concern with a general inquiry into public policy fails to recognize that it could be useful to have a rule that allows a promise to be enforced between the original parties but not their successors.

#### *Notice*

For the burden of a covenant to run, the promisor's successor must have had 'notice' before purchasing the land. The notice element requires that the successor to the promisor have some opportunity to find out about the obligations attached to the land. Requiring notice is often justified by lawyers on the ground that it would be unfair to hold successors to promises they did not know about. Holding unknowing successors liable would in addition create an incentive and opportunity for promisors to free themselves of the promise by selling land to an unaware buyer, who might place a lower value on the burdened land. Notice goes to the heart of voluntary consent. Without meaningful opportunity for parties to know of the burdens they

assume, we cannot be sure that the exchange of an interest in land makes a Pareto improvement. Dilution of the notice requirement, as has occurred in some jurisdictions (see Winokur, 1989), undermines the economic foundation of servitude doctrine.

#### *Horizontal Privity*

According to many authorities, the original parties must have a special connection, called 'horizontal privity', for their covenant to run to either of their successors. Parties are in horizontal privity if they have simultaneous interests or successive interests, that is, at the time of the covenant one party conveys to the other an interest in the dominant or servient parcel. The horizontal privity requirement prevents neighbors from creating a real covenant to keep their lawns mowed without their exchanging some interest in their lands at the same time. Thus, this element imposes substantial costs on parties attempting to create a real covenant. The legal world is still waiting for a convincing policy analysis explaining why courts should, by requiring horizontal privity, continue to impose costs on neighbors wishing to exchange running promises.

#### *Vertical Privity*

A promisor and his successor are in 'vertical privity' if the promisor transfers his entire estate in land to the successor. Only in such cases is the successor bound by a real covenant. A possible rationale for the traditional requirement of vertical privity will be suggested in the section on equitable servitudes.

#### *Termination*

Real covenants terminate if all dominant and servient tenements come under the same ownership and also may terminate automatically by their own terms. Alternatively, judges will sometimes refuse to enforce a covenant on the ground that the holders of the dominant tenement have abandoned the covenant or acquiesced in its violation. In England there is a statutory procedure for discharging obsolete or destructive covenants. Additionally, real covenants can be terminated privately if the holders of the benefit waive their rights or release the burdened parties from their obligations. When real covenants involve a number of owners, holdouts will often prevent such private termination. For that reason, many modern covenants include a provision that the covenants can be terminated by the vote of a majority or supermajority of the parties.

Real covenants are also terminated if the government condemns the servient parcel and uses it in violation of the covenant. The issue arises as to whether the holder of the dominant parcel should obtain a portion of the condemnation award and, if so, how much that award should be. Cases

limiting the total compensation awarded to the value of an unrestricted fee simple would seem to ignore the possibility that the value of the sum of the divided interests is higher than the value of the unencumbered fee. Such cases also undercut the allocative-efficiency rationale for requiring compensation, which is to make sure that the rights taken by the government are worth at least as much to the government as to the private land owners.

### **8. Equitable Servitudes**

Courts of equity, which have now merged with courts of law, have enforced promises stuck to land at least since *Tulk v. Moxhay* (1848). When a court sitting in equity enforces a promise attached to land, the promise is called an 'equitable servitude', 'equitable restriction', 'servitude', or even 'restrictive covenant'. The court applies the requirements of intent, touch and concern, and notice in much the same manner as when it sits at law and enforces the promise as a real covenant.

#### *Changed Conditions*

Judges have refused to enforce equitable servitudes under the 'changed-conditions', 'change of conditions', 'changed-circumstances', or 'changed-neighborhood' doctrine. This doctrine says that injunctive relief will be denied if conditions in the area affected by the covenant have so changed that the covenant can no longer achieve its purpose. Stake (1991) noted that the doctrine creates inefficient incentives. By destabilizing servitude law, it invites litigation and deters parties from beneficial exchanges of rights or shunts them to more reliable but clumsier legal mechanisms such as defeasible estates. If no other form of restriction is satisfactory, a seller may refuse to sell at all, in which case society loses the gains from trade that would have been possible had the seller been confident that the necessary restriction were enforceable.

On the other hand, there are other efficiency benefits from applying the changed-conditions doctrine. Reichman (1978) stated that there is a large difference between an interest expected to promote land utilization and a right having no value other than its negative capacity to prevent efficient land utilization. He said the changed-conditions doctrine applies only to promises of the latter sort. Judges can efficiently reallocate land-use rights in situations where strategic behavior would prevent the parties from privately terminating the servitude. Surely the productivity of restricted land is improved by the changed-conditions doctrine so long as the doctrine is applied only if the challenged restriction generates no conceivable benefit to neighbors and is being asserted only to capture some of the gains from

changing the use of the servient parcel. It is not clear whether judges will also apply this doctrine to real covenants. Stake (1991) argued that there is a reason not to do so. Adhering to the distinction between law and equity and allowing the holders of dominant tenements to assert rights only to damages reduces the distributional unfairness that would attend complete termination of the promise.

#### *Privity*

The primary difference in requirements for real covenants and equitable servitudes is that courts of equity require neither horizontal nor vertical privity. Because the equitable servitude doctrine does not include privity elements, it is easier for a promisee's successor to assert the benefits of a promise in equity than at law. Any real covenant may also be enforced in equity as an equitable servitude, but some equitable servitudes cannot be enforced at law as real covenants. At first blush, this seems anomalous because the usual rule is that a court will grant equitable relief (an injunction) only if the legal remedy (damages) is inadequate.

The practical consequence of enforcement of a servitude in equity is that the court will issue an injunction against the covenantor's successor, requiring him to do, or not to do, an act, while it might not order him to pay damages. This distinction between legal and equitable enforcement of promises has been attacked by Winokur (1989) as being indefensible. But there is an economic defense, as follows. Suppose Ben promises neighbor Sara that Whiteacre will not be used for a business, and then leases the land to Jake. In equity, the court will order Jake not to operate a business on Whiteacre. By contrast, the remedy (at law) for violation of a real covenant is money damages. Sara can seek money damages from the landlord, Ben, rather than from Jake (see Dunham, 1965). Making Ben liable for any monetary damages caused by the business use of Whiteacre seems appropriate, especially if Ben failed to tell Jake about the covenant. But Sara can enforce the equitable servitude directly against Jake, who is in possession, rather than having to find Ben and get him to control Jake's use of Whiteacre. Thus, it is possible that this arrangement of burdens approximates what parties would choose for themselves if they thought about it. Moreover, when the vertical privity requirement does not yield results that fit the parties' needs, the parties can often privately mitigate the effect of the requirement. For example, if Ben wants Jake to be liable at law for damages for breach of the promise, Ben can put that term in his lease.

If the burdened owner passes his entire interest to a successor, the successor is bound by the promise in both law (in the US) and equity. Assuming that the original covenanting parties were not landlord and tenant (and assuming in England that the transferor is not the original covenantor),

the transferor is released from any burden of the promise. It would unduly burden commerce in land if owners were to remain forever liable for breach of covenants attached to lands they once owned. But where the servient owner has not stepped out of the picture entirely by completely transferring his interest, it may be desirable to create an incentive for him to inform his tenant or other successor about the covenant. Making him liable for damages at law upon a breach maintains that incentive for the transferor.

#### *Homeowners Associations*

One important use of covenants and servitudes is in the creation of homeowners, or 'community', associations. Thousands of such associations have been set up to regulate uses of realty and to provide for the maintenance of realty. They often operate on near-democratic principles, such as each house or condominium having one vote in the various decisions to be made.

Because these organizations are geographically based and have powers to tax, spend and regulate, homeowners associations are in many ways like private governments, as was noted by Epstein (1988). Fischel (1987) compared homeowners associations to local governments and found some advantages for private regulation of land use. The advantages of associations include unanimous consent and a contractual basis for development. The power to contract regarding uses to which lands may be put in the future is sometimes not available to municipalities because of judicial decisions invalidating attempts by municipalities to bind themselves by such agreements.

Winokur (1990) and Korngold (1990) have disagreed as to whether the consent to be governed by community associations is voluntary or coerced. However, even if association governance is initially and meaningfully unanimous by virtue of the fact that everyone governed has bought land governed by the association, opportunities arise for the majority to take unfair, and possibly inefficient, advantage of the minority. To prevent this, courts sometimes impose a reasonableness requirement on the actions of the majority. Applying this requirement, courts have struck down rules that reduce the market value of minority interests or stop a minority member from doing something he has long been doing or cannot stop doing. In determining whether a majority has treated a minority unfairly, courts benefit from a natural advantage homeowners associations have over nearly all governments - they govern areas of land that are comparatively homogeneous in their use. For that reason, it is often readily apparent to courts when the association attempts by majority rule to place unfair burdens on the minority. Because characteristics and uses of land within the jurisdiction of a local government vary so widely, it is much more difficult

for courts to identify situations in which the majority has increased its wealth at the expense of the minority.

Despite the potential gains, community associations are not universally appreciated and a substantial number of persons would prefer to live outside their control. Winokur (1989, 1990) makes a case that, left alone, the market has produced community associations that serve poorly the interests of many of their members. He does not discuss the possibility that the market will, as it matures, correct some of the defects that have made previous purchasers unhappy. Winokur argues that servitude regimes generate inefficiency, conflict, and excessive restraints on individual liberty and expression, and for those reasons the government should impose limits on the duration of the servitudes that form the legal basis for community associations.

The somewhat complicated legislative scheme Winokur proposes would reform the procedures for terminating or adjusting servitudes rather than change the rules governing what is an allowable servitude under the touch and concern doctrine or change the termination of servitudes under (rare) modern statutes limiting duration or under the changed-circumstances doctrine. Winokur proposes that servitudes not be enforceable beyond twenty years unless, by the terms of the servitude, fewer than eleven parcels have the right to enforce the servitude. This would assure that any owner wishing to negotiate freedom from a twenty-year-old servitude would not have to deal with too many other owners. On the other hand, such a law would, as Korngold points out, terminate beneficial servitudes and would do nothing to cure problems during the first twenty years of the covenant. In light of Winokur's concern for the difficulties of negotiations among multiple parties, it is somewhat odd that under his proposal servitudes could be modified after twenty years only by unanimous consent. Winokur does not provide a mechanism for protecting other neighbors outside the group from negative externalities of uses allowed by the ten neighbors, externalities which are much more likely if the restricted party is allowed to buy his freedom with payments to the ten. While he establishes that community associations are causing problems and makes proposals that might well be incorporated into the instruments establishing an association, the case for legislative limitation is less compelling. Winokur's mix of temporal limitations and subsequent unanimous consent by a subgroup is not so obviously right for all developments that it should be imposed by law. As usual, this area of law calls for default rules rather than limiting rules.

## 9. Personalty

As seen above, the common law has developed an elaborate system for dividing rights in land, with numerous fine distinctions that make at least some economic sense. English and American law have not developed an equally extensive system for dividing rights in personal property. However, rights in personalty are not beyond decomposition. Personal property can be placed in a trust, which allows all of the divisions possible for realty, and can be divided temporally by lease, which for personalty is essentially a matter of contract law. Corporation and partnership laws can also be seen as sets of rules for decomposing personal property.

The law of wild animals has been characterized by Lueck (1995) as divided ownership. The division of property in wild animals is, however, different from the decomposition of land property discussed above. The fundamental issue above was how private owners might decompose their rights. By contrast, a key issue in the law of living, uncaptured, wild animals is whether there is any owner at all. For many purposes, uncaptured wild animals are unowned. The federal government is not liable as an owner for damage done by wild animals (see *Sickman v. United States*, 1950). Moreover, the US refrained from asserting ownership of wild animals on federal land even in a Supreme Court case where doing so might have saved a federal statute from being declared unconstitutional, although the statute was upheld on other grounds (*Kleppe v. New Mexico*, 1976).

Lueck employs a transaction cost framework to examine the variation in the rules governing wild animals over time and geography. He confirms that efficiency explains the development of the rules. His analysis does not justify complacency, however. Transaction costs, including strategic behavior, may prevent the creation of a system of property in wild animals. And in the absence of a system of rights, it makes little sense for a person to refrain from capturing a wild animal worth more than the private costs of capture, which do not fully include depletion. For animals such as falcons and whales that roam or migrate in a range larger than the optimal (or actual) area of land ownership, the absence of a property system could result in extinction. The difference in remaining numbers of domesticated animals and endangered species suggests that the harvesting of some wild animals has been inefficiently high. Perhaps a rational whale would rather be owned.

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### **Bibliography on Decomposition of Property Rights (1300)**

- Ackerman, Bruce A. (1971), 'Regulating Slum Housing Markets on Behalf of the Poor: Of Housing Codes, Housing Subsidies and Income Redistribution Policy', **80** *Yale Law Journal*, 1093-1197.
- Ackerman, Bruce A. (1973), 'More on Slum Housing and Redistribution Policy: A Reply to Professor Komesar', **82** *Yale Law Journal*, 1194-1207.
- Albon, Robert P. (1982), 'Lawyers and the Rental Market for Housing: a Critical Appraisal or a Conversation Between two Academics in a Hotel Bar', in Cranston, Ross and Schick, Anne (eds), *Law and Economics*, Canberra, Australian National University, 105-111.
- Allen, Douglas and Lueck, Dean (1992), 'Contract Choice in Modern Agriculture: Cash Rent versus Cropshare', **35** *Journal of Law and Economics*, 397-426.
- Allen, Douglas W. and Lueck, Dean (1996), 'The Transaction Cost Approach to Agricultural Contracts', in Martimort, David (ed.), *Agricultural Markets: Mechanisms, Failures, Regulations*, Amsterdam, North Holland Press, Elsevier Science B.V., 31-64.
- Anas, Alex et al. (1987), *The Economics of a Regulated Housing Market*, Stockholm, Swedish Council for Building Research, 114 p.
- Anderson, Terry L. and Lueck, Dean (1992), 'Land Tenure and Agricultural Productivity on Indian Reservations', **35** *Journal of Law and Economics*, 427-454.
- Basu, Kaushik (1989), 'Technological Stagnation, Tenurial Laws, and Adverse Selection', **79** *American Economic Review*, 251-255.
- Cheung, Steven N.S. (1969), *The Theory of Share Tenancy*, Chicago, University of Chicago Press.
- Coll Martín, Sebastián (1982), 'La Minería del Carbón en España a Finales del Antiguo Régimen (Coal Mining in Spain at the End of the Old Regime)', in Tedde, Pedro (ed.), *La Economía Española al Final del Antiguo Régimen. II, Manufacturas*, Madrid, Alianza Editorial, 240-335.
- Cooter, Robert D. (1991), 'Inventing Market Property: The Land Courts of Papua New Guinea', **25** *Law and Society Review*, 759-801.
- Cooter, Robert D. (1992), 'Organization as Property: Economic Analysis of Property Law and Privatization', in Clague, Christopher and Rausser, Gordon (eds), *The Emergence of Market Economies in Eastern Europe*, Oxford, Blackwell, 77-97.
- Demsetz, Harold (1964), 'The Exchange and Enforcement of Property Rights', **7** *Journal of Law and Economics*, 11-26.
- Demsetz, Harold (1966), 'Some Aspects of Property Rights', **9** *Journal of Law and Economics*, 61-70.
- Dunham, Allison (1965), 'Promises Respecting the Use of Land', **8** *Journal of Law and Economics*, 133-165.
- Ellickson, Robert C. (1973), 'Alternatives to Zoning: Covenants, Nuisance Rules, and Fines as Land Use Controls', **40** *University of Chicago Law Review*, 683-781. Reprinted in Ackerman, Bruce A. (1975), *Economic Foundations of Property Law*, Boston, Little Brown, 265-301.

- Ellickson, Robert C. (1982), 'Cities and Homeowners Associations', **130** *University of Pennsylvania Law Review*, 1519-1580.
- Ellickson, Robert C. (1991), 'Rent Control: A Comment on Olsen', **67** *Chicago-Kent Law Review*, 947-954.
- Epstein, Richard A. (1982), 'Notice and Freedom of Contract in the Law of Servitudes', **66** *Southern California Law Review*, 1353-1368.
- Epstein, Richard A. (1988), 'Covenants and Constitutions', **73** *Cornell Law Review*, 906-927.
- Fischel, William A. (1987), 'The Economics of Land Use Exactions: A Property Rights Analysis', **50** *Law and Contemporary Problems*, 101-113. Reprinted in Stein, Jay M. (ed.) (1966), *Classic Readings in Real Estate and Development*, Washington, DC, ULI - the Urban Land Institute, 1996.
- Fischel, William A. (1990), *Do Growth Controls Matter? A Review of the Empirical Evidence on the Effectiveness and Efficiency of Local Government Land Use Regulation*, Cambridge, MA, Lincoln Institute of Land Policy.
- Flath, David J. (1980), 'The Economics of Short-Term Leasing', **18** *Economic Inquiry*, 247-259.
- Frankena, Mark (1975), 'Alternative Models of Rent Control', **12** *Urban Studies*, 303-308.
- García Sanz, Angel (1994), 'El Siglo XVIII: entre la Prosperidad de la Trashumancia y la Crítica Antimestaña de la Ilustración (The Mesta in Spain, XVIIIth Century)', in Gonzalo Anes Alvarez y Angel García Sanz (eds), *Mesta, Trashumancia y vida Pastoril: exposición*, Madrid, Sociedad V Centenario del Tratado de Tordesillas, 137-158.
- Goldberg, Victor P., Merrill, Thomas W. and Unumb, Daniel (1987), 'Bargaining in the Shadow of Eminent Domain: Valuing and Apportioning Condemnation Awards Between Landlord and Tenant', **34** *UCLA Law Review*, 1083-1137.
- Grossman, Sanford J. and Hart, Oliver D. (1986), 'The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration', **94** *Journal of Political Economy*, 691-719.
- Heady, Earl (1947), 'Economics of Farm Leasing', **29** *Journal of Farm Economics*, 659-678.
- Hirsch, Werner Z. (1980), 'Habitability Laws and the Welfare of Indigent Tenants', **63** *Review of Economics and Statistics*, 263-274.
- Hirsch, Werner Z. (1981), 'Landlord-Tenant Relations Law', in Burrows, Paul and Veljanovski, Cento G. (eds), *The Economic Approach to Law*, London, Butterworths, 277-306.
- Hirsch, Werner Z. (1983), 'Effects of Habitability and Anti-Speedy Eviction Laws on Black and Aged Indigent Tenant Groups: An Economic Analysis', **3** *International Review of Law and Economics*, 121-135.
- Hirsch, Werner Z. (1984), 'Comment: From 'Food for Thought' to 'Empirical Evidence' About Consequences of Landlord-Tenant Laws', **69** *Cornell Law Review*, 604 ff.
- Hirsch, Werner Z. (1987), 'Landlord-Tenant Laws and Indigent Black Tenants', **10** *Research in Law and Economics*, 129-141.

- Hirsch, Werner Z., Hirsch, Joel G. and Margolis, S. (1975), 'Regression Analysis of the Effects of Habitability Laws Upon Rent: An Empirical Observation on the Ackerman-Komesar Debate', **63** *California Law Review*, 1095-1143.
- Hughes, William T., Jr and Turnbull, Geoffrey K. (1996), 'Restrictive Land Covenants', **12** *Journal of Real Estate Finance and Economics*, 9-21.
- Jaffe, Austin J. (1995), 'On the Role of Transaction Costs and Property Rights in Housing Markets', *Housing Studies*.
- Johnson, Alex M., Jr (1988), 'Correctly Interpreting Long-Term Leases Pursuant to Modern Contract Law: Toward a Theory of Relational Leases', **74** *Virginia Law Review*, 751-808.
- Johnson, Omotunde E.G. (1972), 'Economics Analysis: the Legal Framework and Land Tenure Systems', **15** *Journal of Law and Economics*, 259-276.
- Kennedy, Duncan (1987), 'The Effect of the Warranty of Habitability on Low Income Housing: 'Milking' and Class Violence', **15** *Florida State University Law Review*, 485-519.
- Komesar, Neil K. (1973), 'Return to Slumville: A Critique of the Ackerman Analysis of Housing Code Enforcement and the Poor', **82** *Yale Law Journal*, 1175-1193.
- Korngold, Gerald (1984), 'Privately Held Conservation Servitudes: A Policy Analysis in the Context of Gross Real Covenants and Easements', **63** *Texas Law Review*, 433-495.
- Korngold, Gerald (1990), 'Resolving the Flaws of Residential Servitudes and Owners Association: for Reformation not Termination', **1990** *Wisconsin Law Review*, 513-535.
- Krier, James E. (1974), 'Book Review, reviewing Posner, Economic Analysis of Law (1972)', **122** *University of Pennsylvania Law Review*, 1664-1705.
- Lianos, Theodore P. and Parliarou, Despina (1987), 'Land Tenure in Greek Agriculture', **63** *Land Economics*, 237-248.
- Livingston, Marie Leigh and Miller, Thomas A. (1986), 'A Framework for Analyzing the Impact of Western Instream Water Rights on Choice Domains: Transferability, Externalities, and Consumptive Use', **62** *Land Economics*, 269-277.
- Lueck, Dean (1989), 'The Economic Nature of Wildlife Law', **18** *Journal of Legal Studies*, 291-324.
- Lueck, Dean (1991), 'Ownership and the Regulation of Wildlife', **29** *Economic Inquiry*, 249-260.
- Lueck, Dean (1995), 'The Economic Organisation of Wildlife Institutions', in Anderson, Terry L. and Hill, Peter J. (eds), *Wildlife in the Market Place*, Rowman and Littlefield Press, Inc..
- Lueck, Dean (1998), 'Wildlife Law', in Newman, Peter (ed.), *The New Palgrave Dictionary of Economics and the Law*, London, Macmillan.
- Lueck, Dean and Allen, Douglas W. (1992), 'Farmland Leasing in Modern Agriculture', *Choices*, 30-31.
- Lueck, Dean and Allen, Douglas W. (1993), 'Transaction Costs and the Design of Cropshare Contracts', **24** *Rand Journal of Economics*, 78-100.
- Lueck, Dean and Schenewerk, Philip (1996), 'An Economic Analysis of Unitized and Non-Unitized Reservoirs', Proceedings of the 1996 Society of Petroleum Engineers Annual Technical Conference, 67-76.

- Lueck, Dean and Yoder, Jonathan (1996), 'Federalism and Wildlife Conservation in the West', in Anderson, Terry L. and Hill, Peter J. (eds), *Environmental Federalism in the West*, Lanham, MD, Rowman and Littlefield Press.
- Markovits, Richard S. (1976), 'The Distributive Impact, Allocative Efficiency, and Over-all Desirability of Ideal Housing Codes: Some Theoretical Clarifications', **89** *Harvard Law Review*, 1815-1846.
- Moody, C.E., Jr and Kruvant, W.J. (1990), 'OCS Leasing Policy and Lease Prices', **66** *Land Economics*, 30-39.
- Moorhouse, John C. (1972), 'Optimal Housing Maintenance Under Rent Control', **39** *Southern Economic Journal*, 93-106.
- Murray, Michael P., Rydell, C. Peter, Barnett, C. Lance, Hillestad, Carol E. and Neels, Kevin (1991), 'Analyzing Rent Control: The Case of Los Angeles', **29** *Economic Inquiry*, 601-625.
- Nugent, Jeffrey B. and Sanchez, Nicolás (1989), 'The Efficiency of the Mesta: A Parable', **26(3)** *Explorations in Economic History*, 261-284.
- Olsen, Edgar O. (1972), 'An Econometric Analysis of Rent Control', **80** *Journal of Political Economy*, 1081-1100.
- Olsen, Edgar O. and Barton, David M. (1983), 'The Benefits and Costs of Public Housing in New York City', **20** *Journal of Public Economics*, 299-332.
- Omotunde, Johnson, E.G. (1972), 'Economic Analysis: the Legal Framework and Land Tenure Systems', **15** *Journal of Law and Economics*, 259-276.
- Pardolesi, Roberto (1991), 'Energia (Energy)', **VII** *Digesto civile*, 444-448.
- Ramseyer, J. Mark (1989), 'Water Law in Imperial Japan: Public Goods, Private Claims, and Legal Convergence', **18** *Journal of Legal Studies*, 51-77.
- Ramseyer, J. Mark (1996), *Odd Markets In Japanese History: Law and Economic Growth*, New York, Cambridge University Press.
- Reichman, Uriel (1978), 'Judicial Supervision of Servitudes', **7** *Journal of Legal Studies*, 139-164.
- Robinson, Glen O. (1991), 'Explaining Contingent Rights: The Puzzle of "Obsolete Covenants"', **91** *Columbia Law Review*, 546-580.
- Rydell and others (1981), *The Impact of Rent Control on the Los Angeles Housing Market*, Santa Monica, CA, RAND Corporation, N-1747-LA.
- Schafer, Robert (1979), 'Racial Discrimination in the Boston Housing Market', **6** *Journal of Urban Economics*, 176-196.
- Schwallie, Daniel P. (1990), 'Note: The Implied Warranty of Habitability as a Mechanism for Redistributing Income: Good Goal, Bad Policy', **40** *Case Western Reserve Law Review*.
- Sevic, Zeljko (1996), *Law and Economics I: Ekonomska Analiza Prava Svojine u Tranziciji* (Law and Economics I: Economic Analysis of the Property Rights in Transition), Pravni zivot, forthcoming.
- Siegan, Bernard H. (1972), *Land Use without Zoning*, Lexington, MA, Lexington Books.
- Solow, Barbara Lewis (1971), *The Land Question and the Irish Economy, 1870-1903*, Cambridge, MA, Harvard University Press.
- Speyrer, Janet Furman (1989), 'The Effect of Land-Use Restrictions on Market Values of Single-Family Homes in Houston', **2** *Journal of Real Estate Finance and Economics*, 117-130.

- Stake, Jeffrey E. (1988), 'Toward an Economic Understanding of Touch and Concern', **1998** *Duke Law Journal*, 925-974.
- Stake, Jeffrey E. (1990), 'Darwin, Donations, and the Illusion of Dead Hand Control', **64** *Tulane Law Review*, 705-781.
- Stake, Jeffrey E. (1991), 'Status and Incentive Aspects of Judicial Decisions', **79** *Georgetown Law Journal*, 1447-1497.
- Stake, Jeffrey E. (1995), 'Loss Aversion and Involuntary Transfers of Title', in Malloy, Robin P. and Braun, Christopher K. (eds), *Law and Economics: New and Critical Perspectives*, New York, Peter Lang, 331-360.
- Valdeon Buruque, Julio (1994), 'La Mesta y el Pastoreo en Castilla en la Baja Edad Media, 1273-1473 (The Mesta in the Low Medieval Age 1273-1473)', in Alvarez, Gonzalo Anes and Sanz, Angel García (eds), *Mestran Trashumancia y vida Pastoril: Exposición*, Madrid, Sociedad V Centenario del Tratado de Tordesillas, 49-64.
- Vogel, Kenneth R. (1987), 'The Coase Theorem and California Animal Trespass Law', **16** *Journal of Legal Studies*, 149-187.
- Williams, Stephen F. (1973), 'Optimizing Water Use: The Return Flow Issue', **44** *University of Colorado Law Review*, 301 ff.
- Williams, Stephen F. (1979a), 'Implied Covenants for Development and Exploration in Oil and Gas Leases - the Determination of Profitability', **27** *Kansas Law Review*, 443 ff.
- Williams, Stephen F. (1979b), 'Solar Access and Property Rights: A Maverick Analysis', **11** *Connecticut Law Review*, 430 ff.
- Williams, Stephen F. (1981), 'Implied Covenants in Oil and Gas Leases: Some General Principles', **29** *University of Kansas Law Review*, 153 ff.
- Williams, Stephen F. (1983), 'The Requirement of Beneficial Use as a Cause of Waste in Water Resource Development', **23** *Natural Resources Journal*, 7 ff.
- Williams, Stephen F. (1984), 'Free Trade in Water Resources: Sporhase V. Nebraska Ex Rel. Douglas', **2** *S. Ct. Economic Review*, 89 ff.
- Williams, Stephen F. (1985), 'The Law of Prior Appropriation: Possible Lessons for Hawaii', **25** *Natural Resources Journal*, 911 ff.
- Winokur, James L. (1989), 'The Mixed Blessings of Promissory Servitudes: Toward Optimizing Economic Utility, Individual Liberty, and Personal Identity', *Wisconsin Law Review*, 1-97.
- Winokur, James L. (1990), 'Rejoinder: Reforming Servitude Regimes: Toward Associational Federalism and Community', **1990** *Wisconsin Law Review*, 537-552.

### Other References

- Alchian, Armen A. (1963), 'Some Economics of Property Rights', *Rand Corporation*.
- American Law Institute (1991), *Restatement of the Law Third Property (Servitudes)* Tentative Draft No.2, Philadelphia, American Law Institute.
- Coase, Ronald H. (1960), 'The Problem of Social Cost', **3** *Journal of Law and Economics*, 1-44.
- Nelson, Grant S., Stoebuck, William B. and Whitman, Dale A. (1996), *Contemporary Property*, St. Paul, West Publishing Co. 610.

- Pigou, A.C. (1932), *The Economics of Welfare*, (4th edn), London, Macmillan 174-175, 178-183.  
Posner, Richard A. (1998), *Economic Analysis of Law*, (5th edn), Boston, Little Brown.  
Simpson, A.W.B. (1961), *An Introduction to the History of the Land Law*, London, Oxford University Press.  
Simpson, A.W.B. (1986), *A History of the Land Law*, (2nd edn), Oxford, Clarendon Press. This is the second edition of Simpson (1961).

### **Cases**

- Hodel v. Irving* (1987), 481 U.S. 704.  
*Kleppe v. New Mexico* (1976), 426 U.S. 529.  
*London County Council v. Allen* (1914), 3 KB 642.  
*Sickman v. United States* (1950), 184 F.2d 616 (7th Cir.), cert. denied, 341 U.S. 939, reh'g denied, 342 U.S. 874 (1951).  
*Tulk v. Moxhay* (1848), Court of Chancery, 2 Phillips 774, 41 Eng Rep 1143.