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Of Coase and Cattle: Dispute Resolution Among Neighbors in Shasta County

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"I think the whole thing is good neighbors. If you don't have good neighbors, you can forget the whole thing."

—Chuck Searle, Shasta County cattleman

"My family believes in 'live and let live.' Have you heard of that?"

—Phil Ritchie, Shasta County farmer

This chapter reports the results of an investigation into how rural landowners in Shasta County, California, resolve disputes arising from trespass by livestock. The results provide an empirical perspective on one of the most celebrated hypothetical cases in the law-and-economics literature. In his landmark article, "The Problem of Social Cost," economist Ronald Coase invoked as his fundamental example a conflict between two neighbors—a rancher running cattle and a farmer raising crops. Coase used the Parable of the Farmer and the Rancher to illustrate what has come to be known as the Coase Theorem. This unintuitive proposition asserts, in its strongest form, that when transaction costs are zero, a change in the rule of liability will have no effect on the allocation of resources. For example, the theorem predicts that as long as its admittedly heroic assumptions are met, the imposition of liability for cattle trespass would not cause ranchers to reduce the size of their herds, erect more fencing, or keep closer watch on their livestock. The theorem has become the most fruitful, yet most controversial, proposition in the field of law and economics.²

Coase himself was fully aware that obtaining information, negotiating agreements, and litigating disputes are all potentially costly, and that thus his parable might not portray accurately how rural landowners would respond to a change in trespass law.³ Some law-and-economics scholars, however, assume that transaction costs are indeed often trivial when only two parties are in conflict.⁴ Therefore, these scholars might assume that Coase's parable faithfully depicts how rural landowners resolve cattle-trespass disputes.

To explore the realism of the assumptions underlying the Farmer-Rancher Parable, I searched for a jurisdiction that had imposed varying rules of liability in cattle trespass situations and had changed those rules with some frequency. After briefly surveying a half-dozen candidates in California, I settled on Shasta County. Since 1945, a specific California statute has authorized the Shasta County Board of Supervisors, the county's elected governing body, to determine where in the county an owner of cattle is liable for damages stemming from unintentional cattle trespass on unfenced land. Although most of Shasta County

is "open range"—territory where a cattleman is not liable for trespass damages of that sort—the board has the authority to "close the range" in subareas of the county. A closed-range ordinance makes a cattleman strictly liable for any damage his livestock might cause while trespassing within the area affected by the ordinance.⁵ The Shasta County Board of Supervisors has exercised this power to close the range on dozens of occasions since 1945, thus changing the exact rule of liability that Coase used in his famous example.⁶ I traveled to Shasta County to determine whether these legal changes had had any impact.⁷

This study presents findings that cast doubt on many of the assumptions underlying the Coasean parable. It also strives to help bridge the chasm lying between the law-and-economics and law-and-society movements,⁸ perhaps the two most significant social-scientific schools of legal research. On the whole, the law and society scholars have gathered the better field data on dispute resolution practices, and the law and economics scholars have developed the more explicit, rigorous, and testable theories of human behavior. Although one might think that members of these two schools would perceive irresistible benefits from collaboration, these two groups have worked largely in isolation from one another. They have separate journals.⁹ They gather at separate conferences. They rarely read, much less cite, work by scholars in the other camp. This absence of cross-fertilization stems not only from lack of familiarity with the working language of the other group, but also from a mutual lack of respect, even a contempt, for the kind of work that the other group does. To exaggerate only a little, the law-and-economics scholars believe that the law-and-society group is deficient in both sophistication and rigor, and the law-and-society scholars believe that the law-and-economics group is not only out of touch with reality but also short on humanity. In conducting this study, I placed a foot squarely within each of the two camps. Law and economics, the tradition within which I have mainly labored, provided the parable that inspired the study. By undertaking "microscopic" field research into the resolution of a narrow class of disputes, however, I followed the methods of pioneering law-and-society scholars such as Stuart Macaulay and H. Laurence Ross.¹¹ After reading in both literatures, I confess my disloyal suspicion that law-and-society scholars would generally be more successful than law-and-economics scholars in predicting the essentials of the story to come.

The Shasta County evidence indicates that Coase's Farmer-Rancher Parable correctly anticipates that a change in the rule of liability for cattle trespass does not affect, for example, the quality of fences that separate ranches from farms. The parable's explanation for the allocative toothlessness of law is, however, exactly backward. The parable's explanation is that transaction costs are low and that parties respond to a new rule by agreeing to an exchange of property rights that perpetuates the prior (efficient) allocation of resources. The field evidence I gathered suggests that a change in animal trespass law indeed fails to affect resource allocation, *not because transaction costs are low, but because transaction costs are high*. Legal rules are costly to learn and enforce. Trespass incidents are minor irritations between parties who typically have complex continuing relationships that enable them readily to enforce informal norms. The Shasta County evidence indicates that under these conditions, potential disputants ignore the formal law. As Coase probably suspected,¹² the Parable of the Farmer and the Rancher therefore ill-describes how rural landowners actually interact with one another.

This chapter introduces the relevant residents of Shasta County and their techniques of cattle ranching and boundary fencing. It describes how the rural residents of Shasta County resolve their cattle-trespass disputes. The chapter concludes with a summary of the principal findings and implications.

SHASTA COUNTY AND ITS CATTLE INDUSTRY

Physical Environment

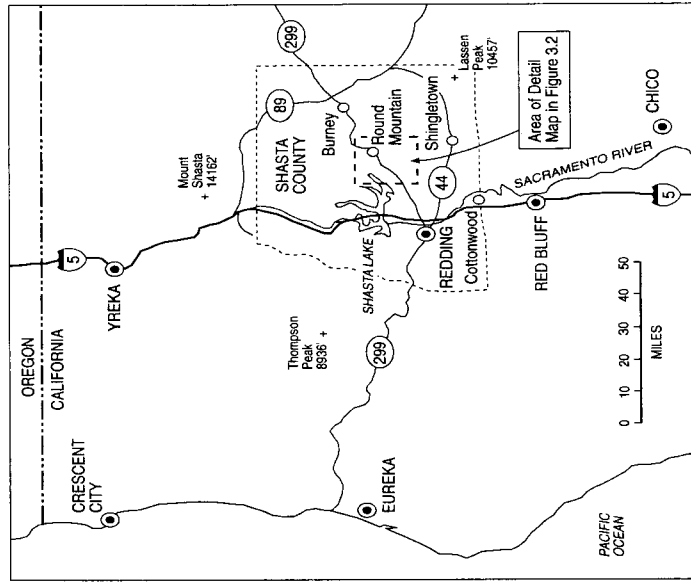
Shasta County lies at the northern end of the four-hundred-mile-long Central Valley of California (see figure 3.1). The Sacramento River, which drains the northern half of the Central Valley, bisects the county. Redding, Shasta County's county seat and largest city, is situated at an elevation of five hundred feet at the spot where the Sacramento River emerges from the mountains north of the Valley to begin its trip south toward San Francisco Bay. High mountain peaks lie within sight of Redding in all directions except south. The Trinity Mountains lie to the west; the towering cone of Mount Shasta stands fifty miles due north, in Siskiyou County; and to the east lie other peaks of the volcanic Cascade Range—notably Mount Lassen, which sits in Shasta County's southeastern corner. To the east, north, and west of Redding, foothills rise irregularly toward these distant mountain peaks.

Weather dictates Shasta County's ranching practices. Like the rest of California, the county has a wet season and a dry season. Redding receives an average annual rainfall of 38.74 inches, most of it concentrated in the winter months.¹³ Little rain falls between mid-May and November. During the summer months intense sunlight bakes Redding, and the surrounding mountains block cooling winds.¹⁴ In the spring, the grasslands near Redding are green from the heavy winter rains; by summer, the extreme heat has turned the groundcover brown.

Most of Shasta County's terrain is too mountainous and its soils too poor to support significant agricultural activity. The majority of the land area in the county is commercial-quality forest, most of which the United States Forest Service and a handful of private timber companies own.¹⁵ Census data describe 16 percent of the county as "land in farms."¹⁶ The bulk of this agricultural land is unirrigated and used only as seasonal pasture for livestock—principally cattle, the county's major agricultural product. Only 1 percent of the county's land is used for raising harvested crops,¹⁷ and a majority of this field-crop acreage is devoted to alfalfa or other hay grown as livestock feed.¹⁸

In 1973, the Shasta County Board of Supervisors voted to "close the range" in a fifty-six-square-mile rectangle of territory around Round Mountain, a rural hamlet situated thirty miles northeast of Redding (see figure 3.2). This ordinance, which county cattlemen now call "Caton's Folly" to embarrass John Caton, the supervisor who helped pass it, provided the best opportunity in Shasta County to test the effects of an *actual* change in the rule of liability for cattle trespass. Nine years later, in 1982, the Board of Supervisors considered, but rejected, a petition to close the range in the Oak Run area immediately southwest of Caton's Folly. The Oak Run controversy promised to reveal the effects of a *threatened* change in liability rules. Residents of the Oak Run and Round Mountain areas were interviewed to shed more light on these effects. The general area northeast of Redding—what I call the Northeastern Sector—thus warrants closer description.

Figure 3.1 Map of Northwestern California



The Northeastern Sector consists of three ecological zones: grassy plains, foothills, and mountain forest. The elevation of the land largely determines the boundaries of these zones; the higher the terrain, the more rain it receives, and the cooler its summer weather.

The zone between five hundred and fifteen hundred feet in elevation, the zone closest to Redding, consists of grassy plains. This idyllic, oak-dotted country provides natural pasture during the spring and, if irrigated, can support a herd year-round. A water supply adequate for irrigation is available, however, only near the streams that flow through the area. Moreover, the soil in much of the grassy plains is infertile hardpan. Because of these natural constraints, the full-time ranchers who operate in this zone typically need at least several square miles of pasture.

The foothills lie between fifteen hundred and thirty-five hundred feet in elevation. Both Caton's Folly and the Oak Run area fall within this transition zone. Much of the foothill area has a mixed natural treecover of pine and oak. In open areas the natural ground cover is less likely to be grass than an unpalatable chap-

arral of manzanita, buckbrush, and like shrubs. To foothill ranchers this brush is almost as repulsive a thought as the importation of Australian beef; the more enterprising foothill ranchers spend much of their energies grappling with this foe.

Mountain forest, the third zone, starts at about thirty-five hundred feet. Ponderosa pine, Douglas fir, and other conifers that have supplanted the deciduous oaks cover the mountainsides at this elevation. The mountain forests remain green year-round, but most are too cold in winter and too hard to clear to be suitable sites for cattlemen's base ranches. The Roseburg Lumber Company owns much of the mountain forest in the Northeastern Sector.¹⁹ Like other private timber companies in the county, Roseburg has not shown any interest in subdividing its lands for development. For many decades, however, Roseburg and its predecessors in ownership have leased their forests to Shasta County cattlemen for summer range.

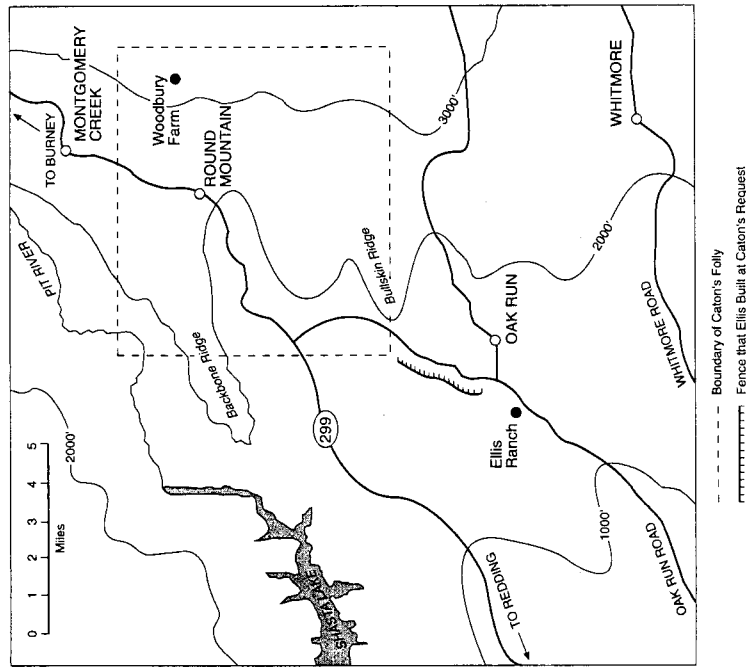
Social Environment

The volatility of population change may affect how people resolve their disputes. Shasta County has experienced rapid population growth. Between 1930 and 1980, the number of county residents increased ninefold,²⁰ and in the decade from 1970 to 1980, total county population rose from 78,000 to 116,000.²¹ The county's population growth rate of 49.0 percent in the 1970s was substantially higher than the overall state rate (18.5 percent), and was somewhat higher than the aggregate rate for California's nonmetropolitan counties (36.4 percent).²² Redding's location at the northern end of the Central Valley makes it a natural transportation hub. It serves as the gateway to mountain recreation areas lying in three directions, and it has emerged as the major regional center on Interstate 5 between Sacramento, California, and Eugene, Oregon. Many migrants to Shasta County have come from the San Francisco and Los Angeles areas. Indications of social instability have accompanied the influx of migrants. In 1981, Shasta had the highest divorce rate of any county in California,²³ and in 1980, the county's unemployment rate was twice that of the state as a whole.²⁴

Precise figures on population trends within the Northeastern Sector are not available. It appears, however, that during the 1970s, the sector's population grew by an even larger percentage than did the county's.²⁵ Not surprisingly, the recent demographic histories of the three ecological zones within the sector are rather different.

Residential patterns in the grassy plains have not changed much in recent years. Beyond the suburbs of Redding most of the acreage in the grasslands and lower foothills remains divided into ranches at least several square miles in size. Approximately half of these ranches are owned by descendants of families that have been in the county for several generations.²⁶ Although many of these ranches have a current market value of one million dollars or more, the ranchers typically have modest annual incomes. For decades, ranchlands in Shasta County have generated an annual cash return of only 1 or 2 percent of market value.²⁷ The cattlemen who own and operate the large family ranches tend to follow self-imposed seven-day-a-week work schedules and live in houses less imposing than

Figure 3.2 Map of the Oak Run/Round Mountain Area



those one would find in an average American suburb. When estate taxes or property taxes have squeezed them financially, ranching families have either conveyed their entire holdings to other ranchers or to investors seeking tax shelters or, more commonly, they have sold tree-covered pieces of their ranches to developers for subdivision into ranchettes.

The foothills have seen more subdivision activity and absolute population growth than have the grassy plains. Both supply and demand conditions explain this pattern. Because the foothills are somewhat less suited than the grasslands for agriculture, foothill landowners are more likely to consider subdividing their holdings. Most homebuyers would also prefer the foothills to the grasslands as a residential location because the higher elevations are cooler in summer and offer more tree cover. As a result, the foothills within commuting distance of

Redding have experienced a multifold increase in population over the past twenty years.²⁸

Many of the recent settlers in the foothills are either retirees or younger migrants from California's major urban areas. These newcomers tend to live on minimally improved lots of from five to forty acres, either in owner-built houses or mobile homes. Many of these ranchettes have sprung up near hamlets, such as Oak Run and Round Mountain, that contain a general store, a post office, an elementary school, and other basic community facilities. Despite these clusters of growth, development in the foothills has been rather diffuse. Especially since the mid-1960s, small-scale real estate operatives have subdivided forested areas in every sector of the foothills.²⁹ Thus virtually all foothill ranchers have some ranchette owners as neighbors. Ranchette owners may keep a farm animal or two as a hobby, but few of them make significant income from agriculture. The ranchette owners nevertheless admire both the cattlemen and the folkways traditionally associated with rural Shasta County.

Work Environment: Modes of Cattle Ranching

Despite their long hours of work, few ranchers in Shasta County find raising beef cattle a road to prosperity. The typical rancher runs a cow-and-calf operation. When his calves are seven to twelve months old, he³⁰ trucks them a dozen miles south of Redding to the Shasta County Auctionyard at Cottonwood, where each Friday some three thousand head change hands. Agents for feedlot operators and pasture owners buy the calves, take them to feedlots and pastures outside the county, and feed and fatten them for a few months to prepare them for slaughter. In 1982, a six-hundred-pound yearling sold at auction in Cottonwood for about \$375, compared to the \$500 it would have brought in 1979, the year that nominal beef prices peaked.³¹ Not only have beef prices recently failed to match the rate of inflation, but in the 1970s per capita consumption of beef in the United States began to fall.³² Shasta County is at best marginal cattle country, and some cattlemen there understandably fear that they may be among the casualties in their beleaguered industry's continuing shakeout.

Shasta County cattlemen may be loosely grouped into two categories: the traditionalists and the modernists.³³ Traditionalists tend to be more marginal economically, and have a greater stake in fighting "closed range" ordinances.

The Traditionalists Traditional Shasta County cattlemen continue to follow the husbandry practices that were nearly universal in the county as late as the 1920s. A traditionalist's trademark is that he lets his cattle roam, essentially unfenced, in unfenced mountain areas during the summer.³⁴ This customary practice evolved in response to the severity of Shasta County's dry season. In the area northeast of Redding, a rancher lacking irrigated pasture needs about ten to twenty acres per animal unit³⁵ for winter and spring pasture. Thus, to support two hundred cattle—a substantial herd by Shasta County standards—a rancher without irrigated pasture needs at least two thousand acres, or just over three square miles of land. During the dry season the brutal heat makes unirrigated grasslands almost worthless. To feed his animals during the summer, a lowland cattleman must therefore either have access to irrigated pasture or be able to

move his animals to the high foothills and mountains where cooler dry season temperatures enable natural forage to survive. The traditionalist solution is a summer grazing lease on a large tract of mountain forest.

The United States Forest Service, the Bureau of Land Management (BLM),³⁶ and major private timber companies have regularly entered into grazing leases with county cattlemen. Although the timber-company grazing leases typically have only a one-year term, the companies have allowed cattlemen to renew them as a matter of course.³⁷ Federal leases may run for any period up to ten years,³⁸ and they also tend to be automatically renewable.³⁹ A cattleman who has been leasing a tract of forest for summer range thus tends to regard the leased tract as a normal part of his operations. Although the forest areas remain green in summer, they contain too few open meadows to support many cattle. Traditionalists may have to lease three hundred acres of forest per animal unit. Thus, a traditionalist with a herd of only one hundred animals may lease during the summer a forest equal in area to the city of San Francisco.

The fencing of these far-flung forest leaseholds has never been cost-justified in the eyes of either the timber owners or their traditionalist lessees. To reduce the risk of livestock trespassing on contiguous lands, forest leasehold boundaries are often drawn to follow natural barriers such as ridges and gulches. But adroit boundary drawing is hardly a foolproof method for controlling strays. Mountain cattle tend to drift down the drainage areas to lower elevations, especially when the weather turns cold or a drought dries the upland creeks. Lessees occasionally erect drift fences across mountain valleys to block the most obvious migration routes. Because drift fences are easily destroyed by winter snows, however, traditionalists often let their animals roam at will in the mountains. Even a forest lessee who has ridden his leasehold periodically during the summer risks being unable to find part of his herd when he gathers his livestock in mid-October. After the October gathering, a traditionalist returns his animals to a base ranch at a lower elevation and feeds them hay or other stored feed for a few months until the winter rains revive the natural grasses on the base ranch pastures.⁴⁰

The Modernists Modernists among the Shasta County cattlemen keep their livestock behind fences at all times in order to increase their control over their herds. To satisfy the need for summer forage that originally caused traditionalist cattlemen to enter into forest leases, modernists install ditches and sprinklers to irrigate base ranch pastures. One acre of irrigated pasture can support a cow and calf for an entire summer. A modernist who can irrigate about 10 percent of his lands is usually able to run a year-round, fenced operation.⁴¹

Modernists are more active than traditionalists in managing rangeland vegetation. If not controlled, the native brush that thrives in the foothill zone would consume much of the scarce groundwater and soil nutrients that competing grasses need. Modernist foothill ranchers fight the brush by setting controlled burns, spreading herbicides, and dragging chains from tractors to uproot the larger plants.⁴² Using these clearing techniques, leading modernist cattlemen have transformed unproductive foothill areas into valuable pasturelands.

Modernists tend to be younger than traditionalists, have more formal education, and be more active in the Cattlemen's Association. Some modernists view the traditionalists as old-fashioned and primitive. Traditionalists, however, see

themselves as the "real" cattlemen—the ones who can recognize a cow at half a mile and sleep out under the stars in the tradition of the nineteenth-century cowboy.

Despite their stylistic differences, modernists and traditionalists have much in common. Members of both groups believe that the life of the cattleman is the best possible in western America. They enjoy riding horses and regularly wearing blue jeans, cowboy hats, and cowboy boots. They regard the late John Wayne as their kind of guy. Although traditionalists have a much greater stake than modernists do in keeping the Board of Supervisors from closing the range, modernist cattlemen typically join the traditionalists in opposing proposed legal changes that would increase the liabilities of owners of stray cattle.

The Benefits and Costs of Boundary Fences

The study of cattle trespass incidents is inevitably a study of fencing. A fence demarcates boundaries, keeps out human and animal trespassers, and keeps in the fencebuilder's own animals. In the Farmer-Rancher Parable, Coase perceived the sole benefit of a fence to be the reduction of trespass damages to crops.⁴³ In fact, cattlemen enclose their lands largely to prevent damage to their own livestock. Predators, rustlers, winter snows, and poisonous plants such as larkspur all pose potentially lethal threats to cattle roaming unfenced countryside.⁴⁴ Cattlemen also worry that a wandering cow will be impregnated by a bull of worthless pedigree. Furthermore, fencing makes it easier for a rancher to provide salt and other useful diet supplements, and to prevent the weight loss likely to occur when cattle walk long distances.

The prices of grazing leases reflect the value that ranchers place on fences. In 1982, fenced land in the Northeastern Sector rented for about ten dollars per animal unit month, whereas unfenced land rented for about three dollars.⁴⁵ Because both arrangements yield the same quantity of forage, the rent differential provides a rough measure of how much ranchers value the protection and control that boundary fences provide.⁴⁶

Since 1874, the year J. F. Glidden took out the first patent on barbed wire, the barbed-wire fence has been the standard American technology for enclosing livestock.⁴⁷ California's statutory standard for a "lawful fence" was set at the turn of the century. It calls for three tightly stretched strands of barbed wire stapled to posts situated sixteen and one half feet (one rod) apart.⁴⁸ Today, Shasta County ranchers tend to use at least four strands of barbed wire⁴⁹ and they employ steel posts instead of the cedar posts customarily used earlier in the century.⁵⁰

In 1982, the materials for a new four-strand, barbed-wire fence in Shasta County cost about two thousand dollars per mile. Fence contractors charge at least as much for labor and overhead.⁵¹ Both ranchers and ranchette owners customarily build their own fences and thereby drastically reduce out-of-pocket labor expenditures.⁵²

Barbed-wire fences require periodic maintenance, especially in Shasta County, where many natural forces conspire against fence wire. The extreme summer heat loosens the wire while the winter cold pulls it taut. The deer that migrate through the foothills during the wet season are generally able to jump cattle fences; but when a jumping deer fails to clear a fence cleanly, its hoof may break

a tightly stretched top wire.⁵³ Heavy winter rains, rotting posts, downed trees, unruly bulls, or wayward automobiles may also create a breach. A rancher or his hand therefore must spend a few days each spring, either on horseback or in a pickup truck, riding fence. A conscientious rancher also inspects his fences in the fall after the deer season, in part to see what damage trespassing hunters may have inflicted.⁵⁴ With emergency repairs needed frequently, fence maintenance chores weigh constantly on a rancher's mind.⁵⁵

Ranchers believe that the many benefits of perimeter barriers outweigh fence construction and maintenance costs. Cattlemen with permanent ranches in either the grasslands or foothills almost invariably have perimeter fences as well as cross fences to divide their spreads into separate pastures. A ranchette owner, however, is unlikely to fence the boundary of his land unless he has livestock. In forest pastures, one observes either no fencing or only an occasional drift fence.⁵⁶

Traditionalists running herds in unfenced mountain forests have provoked most of the closed-range political movements in Shasta County.⁵⁷ During the summer months mountain cattle sometimes wander onto rural highways and ravage hay fields and gardens in the settled parts of the foothills. The recent proliferation of ranchettes in the foothills has aggravated these two risks and heightened opposition to the practice of running cattle at large.

THE RESOLUTION OF ANIMAL TRESPASS DISPUTES IN SHASTA COUNTY

This part of this chapter reports the frequency of cattle trespass incidents in Shasta County, discusses residents' knowledge of relevant California trespass law, and recounts how Shasta County neighbors actually resolve their trespass disputes. In the Coasean parable of the farmer and the rancher, the two neighbors both know and honor applicable legal rules. Much of law-and-economic scholarship has similarly assumed that law is efficacious in this way.⁵⁸ This part suggests that the assumption of efficacious law is more heroic than certain scholars have realized.

Animal Trespass Incidents

Every landowner interviewed, including all thirteen ranchette owners, reported at least one instance in which his lands had been invaded by someone else's livestock. Hay farmers grow what cattle especially like to eat, and thus expect frequent trespasses.⁵⁹ Owners of large ranches are also common victims because they cannot keep their many miles of aging perimeter fence cattle-tight. Thus, when a rancher gathers his animals on his fenced pastures each spring, he is not startled to find a few head carrying his neighbor's brand.

Because cattle eat almost incessantly, a trespass victim's vegetation is always at risk.⁶⁰ Nevertheless, a victim usually regards the loss of grass as trivial so long as the owner removes the animals with reasonable promptness—that is, within a day or two if the animals are easy to corral. Trespassing livestock occasionally do cause more than nominal damage. Several ranchette owners reported incidents in which wayward cattle had damaged their fences and vegetable gardens; one farmer told of the ravaging of some of his ornamental trees.

The most serious trespasses reported were ones involving either at-large cattle

or bulls. A ranchette owner narrated how mountain cattle had once invaded his house construction site, broken the windows, and contaminated the creek. A part-time horsebreeder told of buying seven tons of hay and stacking it on an unfenced portion of his fifty-acre ranchette near Oak Run. The hay was then eaten by roaming cattle belonging to Frank Ellis, who by the late 1970s was running the largest open-range herds in the foothills.

Rural residents especially fear trespasses by bulls. In a modern beef cattle herd, roughly one animal in twenty-five is a bull, whose principal function is to impregnate cows during their brief periods in heat.⁶¹ Bulls are twice as heavy as the other herd animals,⁶² and tend to be much more ornery. Several respondents had vivid memories of bull trespasses. A farmer who owned irrigated pasture was amazed at the depth of the hoof marks that an entering bull made. A ranchette owner and a rancher told of barely escaping goring while attempting to corral invading bulls.⁶³ Because an alien bull often enters in pursuit of cows in heat, owners of female animals fear illicit couplings that might produce offspring of an undesired pedigree. Although no cow owner reported actual damages from misbreeding, several mentioned that this risk especially worried them.

Knowledge of Animal Trespass Law

Before examining how Shasta County landowners actually resolve their cattle trespass disputes, I describe their working knowledge of the formal rules of trespass law. The extent of their knowledge is relevant for at least two reasons. First, Coase's parable is set in a world of zero transaction costs, where everyone has perfect knowledge of legal rules. In reality, legal knowledge is imperfect because legal research is costly and human cognitive capacities are limited. The following overview of the working legal knowledge of Shasta County residents provides a glimpse at how people behave in the face of these constraints. Analysts interested in designing legal rules to achieve specific instrumental goals must heed data of this sort, because rules cannot have instrumental effects unless they are communicated to the relevant actors. Second, most residents resolve trespass disputes by applying lower-level norms that are consistent with an overarching norm of cooperation among neighbors. To the extent that residents understand that their lower-level norms are inconsistent with formal legal rules, the more notable it is that the norms prevail.

Laymen's Knowledge of Animal Trespass Law To apply formal legal rules to a specific trespass incident, a Shasta County resident would first have to know whether it had occurred in an open-range or closed-range area of the county. Ideally, the resident would either have or know how to readily locate the map of closed-range areas published by the county's Department of Public Works. Second, a legally sophisticated person would have a working command of the rules of trespass law. In general, in a closed-range area an owner of domestic livestock is strictly liable (that is, liable even in the absence of negligence) for property damage that his animals cause while trespassing. In open-range areas by contrast, a victim of unintentional animal trespass can recover damages only if the victim had protected his lands with a lawful fence.

I found no one in Shasta County—layman or professional—with a complete

working knowledge of the formal trespass rules just described. The persons best informed are, interestingly enough, two public officials without legal training: Brad Bogue, the animal control officer, and Bruce Jordan, the brand inspector.⁶⁴ Their jobs require them to deal with stray livestock on almost a daily basis. Both have striven to learn applicable legal rules, and both sometimes invoke formal law when mediating disputes between county residents. Both Bogue and Jordan possess copies of the closed-range map and relevant provisions of the California Code. What they do *not* know is the case law; for example, neither is aware of the rule that an intentional trespass is always tortious, even in open range. Nevertheless, Bogue and Jordan, both familiar figures to the cattlemen and (to a lesser extent) the ranchette owners of rural Shasta County, have done more than anyone else to educate the populace about formal trespass law.

What do ordinary rural residents know of that law? To a remarkable degree the landowners I interviewed did know whether their own lands were within open or closed range. Of the twenty-five I asked to identify whether they lived in open or closed range, twenty-one provided the correct answer, including two who were fully aware that they owned land in both.⁶⁵ This level of knowledge is probably atypically high.⁶⁶ Most of the landowner interviews were conducted in the Round Mountain and Oak Run areas. The former was the site in 1973 of the Caton's Folly closed-range battle. More importantly, Frank Ellis's aggressive herding had provoked a furious closed-range battle in the Oak Run area just six months before I conducted the interviews. Two well-placed sources—the Oak Run postmaster and the proprietress of the Oak Run general store—estimated that this political storm had caught the attention of perhaps 80 percent of the area's adult residents. In the summer of 1982, probably no populace in the United States was more alert to the legal distinction between open and closed range than the inhabitants of Oak Run.⁶⁷

What do laymen know of the substance of trespass law? In particular, what do they know of how the rules vary from open to closed range? Laymen tend to conceive of these legal rules in black-and-white terms: Either the livestock owners or the trespass victims "have the rights." In fact, the law of animal trespass in open range is quite esoteric. Even there, an animal owner is liable, for example, for intentional trespass, trespass through a lawful fence, or trespass by a goat. Only a few rural residents of Shasta County know anything of these subtleties. "Estray" and "lawful fence," central terms in the law of animal trespass, are not words in the cattlemen's everyday vocabulary. Neither of the two most sophisticated open-range ranchers that I interviewed was aware that enclosure by a lawful fence elevates a farmer's rights to recover for trespass. A traditionalist, whose cattle had often caused mischief in the northeastern foothills, thought estrays could never be seized in open range, although a lawful fence gives a trespass victim exactly that entitlement. No interviewee believed that Frank Ellis's intentional herding on his neighbors' lands in open range might have been in excess of his rights.

As most laymen in rural Shasta County see it, trespass law is clear and simple. In closed range, an animal owner is strictly liable for trespass damages. (They of course never used, and would not recognize, the phrase "strict liability.") In open range, their basic premise is that an animal owner is never liable. When I posed hypothetical fact situations designed to put their simple rules under stress, the lay

respondents sometimes backpedaled a bit, but they ultimately stuck to the notion that cattlemen have the rights in open range and trespass victims the rights in closed range.

Legal Specialists' Knowledge of Trespass Law The laymen's penchant for simplicity enabled them to identify correctly the rule of strict liability for cattle trespass that formally applies in closed range. In that regard, the laymen outperformed the "legal specialists"—the judges, attorneys, and insurance adjusters. Although I sought out specialists who I had reason to believe would be knowledgeable about rural legal problems, I found that in two important respects the legal specialists had less working knowledge of trespass and estray rules than did the lay landowners.⁶⁶ First, in contrast to the landowners, the legal specialists immediately invoked *negligence* rules when asked to analyze rights in trespass cases. In general, they thought that a cattleman would not be liable for trespass in open range (although about half seemed aware that this result would be affected by the presence of a lawful fence), and that he would be liable *only when negligent* in closed range. The negligence approach has so dominated American tort law during this century that legal specialists—insurance adjusters in particular—may fail to identify narrow pockets where strict liability rules, such as the English rule on cattle trespass, formally apply.⁶⁷

Second, unlike the lay rural residents, the legal specialists knew almost nothing about the location of the closed-range districts in the county.⁶⁸ For example, two lawyers who lived in rural Shasta County and raised livestock as a sideline, were ignorant of these boundaries; one incorrectly identified the kind of range in which he lived, and the other admitted he did not know what areas were open or closed. The latter added that this did not concern him because he would fence his lands under either legal regime.

I interviewed four insurance adjusters who settle trespass-damage claims in Shasta County. These adjusters had little working knowledge of the location of closed-range and open-range areas or of the legal significance of those designations. One incorrectly identified Shasta County as an entirely closed-range jurisdiction. Another stated that he did not keep up with the closed-range situation because "closed-range" just signifies places where there are fences, and the fence situation changes too rapidly to be worth following. The other two adjusters knew a bit more about the legal situation. Although neither possessed a closed-range map, they were able to guess how to locate one. On the other hand, both implied that they would not bother to find out whether a trespass incident had occurred in open or closed range before settling a claim. The liability rules that these adjusters apply to routine trespass claims seemed largely independent of formal law.⁶⁹

The Settlement of Trespass Disputes

If Shasta County residents were to try to settle their trespass disputes⁷² like the farmer and the rancher in Coase's parable, they would act in the following way.⁷³ First, they would look to the formal law to determine who had what entitlements. They would then regard those substantive rules as beyond their influence ("exogenous" to use the economists' adjective). When they faced a potentially

costly interaction, such as a trespass risk to crops, they would resolve it "in the shadow of"⁷⁴ the formal legal rules. Because transactions would be costless, enforcement would be complete: no violation of an entitlement would be ignored. For the same reason, two neighbors who interacted on a number of fronts would resolve their disputes front by front, rather than globally. My findings cast doubt on the realism of each of these implications of the parable. Because Coase himself was fully aware that transactions are costly and thus that the parable was no more than an abstraction, my findings in no way diminish his monumental contribution.⁷⁵ The findings may, however, serve as a valuable caution to other law-and-economics scholars who may have underestimated the impact of transaction costs on how the world works.⁷⁶

Norms, Not Legal Rules, Are the Basic Sources of Entitlements In rural Shasta County, trespass conflicts are generally resolved not "in the shadow of the law" but, rather, *beyond* that shadow. Most rural residents are consciously committed to an overarching norm of cooperation among neighbors.⁷⁷ In trespass situations, their salient lower-level norm, adhered to by all but a few deviants, is that an owner of livestock is responsible for the acts of his animals. Allegiance to this norm seems wholly independent of formal legal entitlements. Most cattlemen believe that a rancher should keep his animals from eating a neighbor's grass, regardless of whether the range is open or closed. Cattlemen typically couch their justifications for the norm in moral terms:

Marty Fancher: "Suppose I sat down [uninvited] to a dinner your wife had cooked." Dick Coombs: It "isn't right" to get free pasturage at the expense of one's neighbors. Owen Shellworth: "[My cattle] don't belong [in my neighbor's field]." Attorney-rancher Pete Schultz: A cattleman is "morally obligated to fence" to protect his neighbor's crops, even in open range.

In what follows, I describe in greater detail how the norms of neighborliness operate and how deviants who violate these norms are informally controlled. I also identify another set of deviants: trespass victims who actually invoke their formal legal rights.

Incomplete Enforcement: The Live-and-Let-Live Philosophy The norm that an animal owner should control his stock is modified by another norm that holds that a rural resident should "jump" minor damage stemming from isolated trespass incidents. The neighborly response to an isolated infraction is an exchange of civilities. A trespass victim should notify the animal owner that the trespass has occurred and assist the owner in retrieving the stray stock. Virtually all residents have telephones, the standard means of communication. A telephone report is regarded not as a form of complaint, but rather as a service to the animal owner, who, after all, has a valuable asset on the loose. Upon receiving a telephone report, a cattleman who is a good neighbor will quickly retrieve the animals (by truck if necessary), apologize for the occurrence, and thank the caller. The Mortons and the Shellworths, two ranching families in the Oak Run area particularly esteemed for their neighborliness, are known for promptly and apologetically responding to their neighbors' notifications of trespass.⁷⁸

Several realities of rural life in Shasta County help explain why residents are expected to "lump" trespass losses. First, it is commonplace for a country landowner to lose a bit of forage or to suffer minor fence damage. The area northeast of Redding lies on a deer migration route. During the late winter and early spring thousands of deer and elk move through the area, easily jumping the barbed wire fences.⁷⁹ Because wild animals trespass so often, most rural residents come to regard minor damage from alien animals not as an injurious event, but as an inevitable part of life.

Second, most residents expect to be on both the giving and receiving ends of trespass incidents. Even the ranchette owners have, if not a few hobby livestock, at least several dogs, which they keep for companionship, security, and pest control. Unlike cattle, dogs that trespass may harass, or even kill, other farm animals. If trespass risks are symmetrical, and if residents lump all trespass losses, accounts balance in the long run. Under these conditions, the advantage of reciprocal lumping is that each person is made whole without having to expend time or money to settle disputes.

The norm of reciprocal restraint that underlies "five-and-let-live" also calls for ranchers to lump the costs of boarding another person's animal, even for months at a time. A cattleman often finds in his herd an animal wearing someone else's brand. If he recognizes the brand he will customarily inform its owner, but the two will often agree that the simplest solution is for the animal to stay put until the trespass victim next gathers his animals, an event that may be weeks or months away. The cost of "cutting" a single animal from a larger herd seems to underlie this custom. Thus, ranchers often consciously provide other people's cattle with feed worth perhaps as much as ten dollars to a hundred dollars per animal. Although Shasta County ranchers tend to regard themselves as financially pinched, even ranchers who know that they are legally entitled to recover feeding costs virtually never seek monetary compensation for boarding estrays. The largest ranchers northeast of Redding who were interviewed reported that they had never charged anyone, or been charged by anyone, for costs of that sort. Even when they do not know to whom a stray animal belongs, they put the animal in their truck the next time they take a load of animals to the auctionyard at Cottonwood, and drop it off without charge so that the brand inspector can locate the owner.⁸⁰

The Complexity of Interneighbor Relations: Comprehensive Mental Accounts of Who Owes Whom Residents with few animals may of course not perceive any average reciprocity of advantage in a live-and-let-live approach to animal trespass incidents. What if, for example, a particular rancher's livestock repeatedly caused minor mischief in a particular farmer's fields? In that situation, Shasta County norms call for the farmer to keep track of those minor losses in a mental account. Eventually, the norms entitle him to act to remedy any imbalance.

A fundamental feature of rural society makes this enforcement system feasible: *Rural residents deal with one another on a large number of fronts, and most residents expect those interactions to continue far into the future.* In sociological terms, their relationships are "multiplex," not "simplex."⁸¹ They interact on water supply, controlled burns, fence repairs, social events, staffing the volunteer fire department,

and so on. Where population densities are low, each neighbor looms larger. Thus any trespass dispute with a neighbor is almost certain to be but one thread in the rich fabric of a continuing relationship.

A person in a multiplex relationship can keep a rough mental account of the outstanding credits and debits in each aspect of that relationship.⁸² Should the aggregate account fall out of balance, tension may mount because the net creditor may begin to perceive the net debtor as an overreacher. On the other hand, so long as the aggregate account is in balance, neither party need be concerned that particular subaccounts are not. For example, if a rancher were to owe a farmer in the trespass subaccount, the farmer can be expected to remain content if that imbalance were to be offset by a debt he owed the rancher in, say, the watersupply subaccount.⁸³

The live-and-let-live norm also suggests that neighbors should put up with minor imbalances in their aggregate accounts, especially when they perceive that their future interactions will provide adequate opportunities for settling old scores. Creditors may prefer having others in their debt. For example, when Larry Brennan lost six to seven tons of baled hay to Frank Ellis's cattle in open range, Brennan (although he did not know it) had a strong legal claim against Ellis for intentional trespass. Brennan estimated his loss at between \$300 and \$500, hardly a trivial amount. When Ellis learned of Brennan's loss he told Brennan to "come down and take some hay" from his barn. Brennan declined this offer of compensation, partly because he thought he should not have piled the bales in an unfenced area, but also because, to paraphrase his words, he would rather have Ellis in debt to him than be in debt to Ellis. Brennan was willing to let Ellis run up a deficit in their aggregate interpersonal accounts because he thought that as a creditor he would have more leverage over Ellis's future behavior.

The Control of Deviants: The Key Role of Self-help The rural Shasta County population includes deviants who do not adequately control their livestock and do not adequately balance their informal accounts with their neighbors. Frank Ellis, for example, seemed to care little about his reputation among his neighbors. In general, the traditionalists who let their animals loose in the mountains during the summer are less scrupulous than the modernists are in honoring the norms of neighborliness, perhaps because the traditionalists have less complex, and shorter-lived, interrelationships with the persons who encounter their range cattle.

To discipline deviants, the residents of rural Shasta County use the following four types of countermeasures, listed in escalating order of seriousness: (1) self-help retaliation; (2) reports to county authorities; (3) claims for compensation informally submitted without the help of attorneys; and (4) formal legal claims to recover damages. The law starts to gain bite as one moves down this list.

Because most trespass disputes in Shasta County are resolved according to extralegal rules, the fundamental enforcement device is also extralegal. A measured amount of self-help—just enough to "get even," to invoke a marvelously apt phrase—is the predominant and ethically preferred response to someone who has not taken adequate steps to prevent his animals from trespassing.⁸⁴

The mildest form of self-help is negative gossip.⁸⁵ This usually works because

only the extreme deviants are immune from the general obsession with neighborliness. Although the Oak Run-Round Mountain area is undergoing a rapid increase in population, it remains distinctly rural in atmosphere. People tend to know one another, and they value their reputations in the community. Some ranching families have lived in the area for several generations and plan to stay indefinitely. Members of these families seem particularly intent on maintaining their reputations as good neighbors. Should one of them not promptly and courteously retrieve an estray, he might fear that any resulting gossip would permanently besmirch the family name.

Residents of the northeastern foothills seem quite conscious of the role of gossip in their system of social control. One longtime resident, who had also lived for many years in a suburb of a major California urban area, observed that people in the Oak Run area "gossip all the time," much more than in the urban area. Another reported intentionally using gossip to sanction a traditionalist who had been "impolite" when coming to pick up some stray mountain cattle; he reported that application of this self-help device produced an apology, an outcome itself presumably circulated through the gossip system.

The furor over Frank Ellis's loose cattle in the Oak Run area induced area residents to try a sophisticated variation of the gossip sanction. The ranchette residents who were particularly bothered by Ellis's cattle could see that he was utterly indifferent to his reputation among them. On the other hand, they thought that a large rancher such as Ellis would worry about his reputation among the large cattle operators in the county. They therefore reported Ellis's activities to the Board of Directors of the Shasta County Cattlemen's Association. This move proved unrewarding, for Ellis was also surprisingly indifferent to his reputation among the cattlemen. As the association president later explained in a hearing before the county Board of Supervisors, the problem was that Ellis, a county resident for a decade, "hasn't been [in the County] all that long."

When milder measures such as gossip fail, a person is regarded as being justified in threatening to use, and perhaps even actually using, tougher self-help sanctions. Particularly in unfenced country, a victim may respond to repeated cattle trespasses by herding the offending animals to a location extremely inconvenient for their owner.⁸⁶ Another common response to repeated trespasses is to threaten to kill a responsible animal should it ever enter again. Although the killing of trespassing livestock is a crime in California,⁸⁷ six landowners—not noticeably less civilized than the others—unhesitatingly volunteered that they had issued death threats of this sort. These threats are credible in Shasta County, because victims of recurring trespasses, particularly if they have first issued a warning, feel justified in killing or injuring the mischievous animals. Despite the criminality of the conduct (a fact not necessarily known to the respondents), I learned the identity of two persons who had shot trespassing cattle. Another landowner told of running the steer of an uncooperative neighbor into a fence. The most intriguing report came from a rancher who had had recurrent problems with a trespassing bull many years ago. This rancher told a key law enforcement official that he wanted to castrate the bull—"to turn it into a steer." The official replied that he "would have deaf ears" if that were to occur. The rancher asserted that he then carried out his threat.

It is difficult to estimate how frequently rural residents actually resort to vio-

lent self-help. Nevertheless, fear of physical retaliation is undoubtedly one of the major incentives for order in rural Shasta County. Ranchers who run herds at large freely admit that they worry that their trespassing cattle might meet with violence. One traditionalist reported that he is responsive to complaints from ranchette owners because he fears they will poison or shoot his stock. A judge from a rural district of the county asserted that a vicious animal is likely to "disappear" if its owner does not control it. A resident of the Oak Run area stated that some area residents responded to Frank Ellis's practice of running herds at large by rustling Ellis's cattle. He suggested that Ellis prepare a T-shirt with the following inscription: "Eat Ellis Beef. Everyone in Oak Run Does!"

The long-time ranchers of Shasta County pride themselves on being able to resolve their problems on their own.⁸⁸ Except when they lose animals to rustlers, they do not seek help from public officials. Although ranchette owners also use the self-help remedies of gossip and violence, they, unlike the cattlemen, sometimes respond to a trespass incident by contacting a county official who they think will remedy the problem. These calls are usually funneled to the animal control officer or brand inspector, who report that most of their callers are ranchette owners with limited rural experience. These calls do produce results. The county officials typically contact the owner of the animal, who then arranges for its removal. Brad Bogue, the animal control officer, reported that in half the cases the caller knows whose animal it is. This suggests that callers often think that requests for removal have more effect when issued by someone in authority.

Merely removal of an animal may provide only temporary relief if its owner is a mountain lessee whose cattle repeatedly descend upon the ranchettes. County officials therefore use mild threats to caution repeat offenders. In closed range, they may mention both their power to impound the estrays and the risk of criminal prosecution. These threats appear to be bluffs; the county never impounds stray cattle when it can locate an owner, and it rarely prosecutes cattlemen (and then only when their animals have posed risks to motorists). In open range, county officials may deliver a more subtle threat: not that they will initiate a prosecution, but that, if the owner does not mend his ways, the Board of Supervisors may face insuperable pressure to close the range in the relevant area. Because cattlemen perceive that a closure significantly diminishes their legal entitlements in situations where motorists have collided with their livestock, this threat can catch their attention.

A trespass victim's most effective official protest is one delivered directly to his elected county supervisor—the person best situated to change stray-cattle liability rules. Many Shasta County residents are aware that traditionalist cattlemen fear the supervisors more than they fear law enforcement authorities. Thus in 1973, alfalfa farmer John Woodbury made repeated phone calls about mountain cattle not to Brad Bogue but to Supervisor John Caton. When a supervisor receives many calls from trespass victims, his first instinct is to mediate the crisis. Former Supervisor Norman Wagoner's standard procedure was to assemble the ranchers in the area and advise them to put pressure on the offender or else risk the closure of the range. Wagoner's successor, Supervisor John Caton, similarly told Frank Ellis that he would support a closure at Oak Run unless Ellis built three miles of fence along the Oak Run Road. If a supervisor is not responsive to a constituent's complaint, the constituent may respond by circulating a closure petition.

Because Shasta County residents tend to settle their trespass disputes beyond the shadow of the law, one might expect that the norms of neighborliness would include a norm against the invocation of formal legal rights. And this norm is indeed strongly established.⁸⁹ Owen Shellworth: "I don't believe in lawyers [because there are] always hard feelings [when you litigate]." Tony Morton: "I never press a monetary claim because I try to be a good neighbor." Norman Wagoner: "Being good neighbors means no lawsuits." Although trespasses are frequent, *Shasta County's rural residents virtually never file formal trespass actions against one another*. John Woodbury, for example, made dozens of phone calls to Supervisor John Caton but never sought monetary compensation from the traditionalists whose cattle had repeatedly marauded his alfalfa field. Court records and conversations with court clerks indicate that in most years not a single private lawsuit is filed in the county's courts seeking damages for either trespass by livestock or the expense of boarding estrays.⁹⁰ The residents of the northeastern foothills not only refrain from filing formal lawsuits, but they are also strongly disinclined to submit informal monetary claims to an owner of trespassing animals or that owner's insurance company.⁹¹

The landowners who were interviewed clearly regard their restraint in seeking monetary relief as a mark of virtue. When asked why they did not pursue meritorious legal claims arising from trespass or fence-finance disputes, various landowners replied: "I'm not that kind of guy"; "I don't believe in it"; "I don't like to create a stink"; "I try to get along." The landowners who attempted to provide a rationale for this forbearance all implied the same one, a long-term reciprocity of advantage. Ann Kershaw: "The only one that makes money [when you litigate] is the lawyer." Al Levy: "I figure it will balance out in the long run." Pete Schultz: "I hope they'll do the same for me." Phil Ritchie: "My family believes in 'live and let live.'"

Mutual restraint saves parties with long-term relationships the costs of going through the formal claims process. Adjoining landowners who practice live-and-let-live are both better off whenever the negative externalities from their activities are roughly in equipoise. Equipoise is as likely in closed-range as in open. Landowners with property in closed-range—the ones with the greatest formal legal rights—were the source of half of the quotations in the prior two paragraphs.

Shasta County landowners regard a monetary settlement as an arms-length transaction that symbolizes an unneighborly relationship. Should your goat happen to eat your neighbor's tomatoes, the neighborly thing for you to do would be to help replant the tomatoes; a transfer of money would be too cold and too impersonal.⁹² When Kevin O'Hara's cattle went through a break in a fence and destroyed his neighbor's corn crop (a loss of less than a hundred dollars), O'Hara had to work hard to persuade his neighbor to accept O'Hara's offer of money damages. O'Hara insisted on making this payment because he "felt responsible" for his neighbor's loss, a feeling that would not have been in the least affected had the event occurred in open instead of closed range. There can also be social pressure against offering money settlements. Bob Bosworth's father agreed many decades ago to pay damages to a trespass victim in a closed-range area just south of Shasta County; other cattlemen then rebuked him for setting an unfortunate precedent. The junior Bosworth, currently president of the Shasta County Cat-

tleman's Association, could recall no other out-of-pocket settlement in a trespass case.

Trespass victims who sustain an unusually large loss are more likely to take the potentially deviant step of making a claim for monetary relief. I interviewed adjusters for the two insurance companies whose liability policies would be most likely to cover losses from animal trespass. The adjusters' responses suggest that in a typical year these companies receive fewer than ten trespass damage claims originating in Shasta County. In the paradigmatic case, the insured is not a rancher, but rather a ranchette owner whose family's horse escaped and trampled a neighboring homeowner's shrubbery. The claimant is typically not represented by an attorney—a type of professional these adjusters rarely encounter. The adjusters also settle each year two or three trespass claims that homeowners or ranchette owners have brought against ranchers. Ranchers who suffer trespasses virtually never file claims against others' insurance companies. An adjuster for the company that insures most Shasta County ranchers stated that he could not recall, in his twenty years of adjusting, a single rancher's claim for compensation for trespass damage.

The landowners, particularly the ranchers, express a strong aversion to hiring an attorney to fight their battles. To hire an attorney is to escalate a conflict. A good neighbor does not do such a thing because the "natural working order" calls for two neighbors to work out their problems between themselves. The files in the Shasta County courthouses reveal that the ranchers who honor norms of neighborliness—the vast majority—are simply not involved in cattle-related litigation of any kind.

My field research uncovered two instances in which animal trespass victims in the Oak Run-Round Mountain area had turned to attorneys. In one of these cases the victim actually filed a formal complaint. Because attorney-backed claims are so unusual, these two disputes deserve elaboration.

The first dispute involved Tom Hailey and Curtis McCall. For three generations, Hailey's family has owned a large tract of foothill forest in an open-range area near Oak Run. In about 1978 Hailey discovered McCall's cattle grazing on some of Hailey's partially fenced land. Hailey suspected that McCall had brought the animals in through a gate in Hailey's fence. When Hailey confronted him, McCall, who lived about a mile away, acted as if the incursion had been accidental. Hailey subsequently found a salt block on the tract—an object he could fairly assume that McCall had put there to service his herd. Hailey thus concluded that McCall had not only deliberately trespassed but had also aggravated the offense by untruthfully denying the charge. Hailey seized the salt block and consulted an attorney, who advised him to seek compensation from McCall. The two principals eventually agreed to a small monetary settlement.

Hailey is a semiretired government employee who spends much of his time outside of Shasta County; he is regarded as reclusive and eccentric—certainly someone outside the mainstream of Oak Run society. McCall, a retired engineer with a hard-driving style, moved to Shasta County in the late 1970s to run a small livestock ranch. The Haileys refer to him as a "Texan"—a term that connotes someone who is both an outsider and lacks neighborly instincts.

The second dispute involved Doug Heinz and Frank Ellis. Heinz had the

misfortune of owning a ranchette near Ellis's ranch. After experiencing repeated problems with Ellis's cattle, Heinz unilaterally seized three of the animals that had broken through his fence. Heinz boarded these animals for three months without notifying Ellis. Heinz later asserted he intended to return them when Ellis next held a roundup. According to Heinz, Ellis eventually found out that Heinz had the animals and asked for their return. Heinz agreed to return them if Ellis would pay pasturage. When Ellis replied, "You know I'm good for it," Heinz released the animals and sent Ellis a bill. Ellis refused to pay the bill, and he further infuriated Heinz by calling him "boy" whenever Heinz brought up the debt.

On January 8, 1981, Heinz filed a small-claims action against Ellis to recover \$750 "for property damage, hay and grain ate [*sic*] by defendant's cattle, boarding of animals."⁹³ Acting through the attorney he kept on retainer, Ellis responded eight days later with a separate civil suit against Heinz.⁹⁴ Ellis's complaint sought \$1,500 compensatory and \$10,000 punitive damages from Heinz for the shooting deaths of two Black Brangus cows that Ellis had pastured on BLM lands; it also sought compensation for the weight loss Ellis's three live animals had sustained during the months Heinz had been feeding them. The two legal actions were later consolidated. Heinz, who called Ellis's allegation that Heinz had killed two cows "100 percent lies" and "scare tactics," hired a bright young Redding attorney to represent him. This attorney threatened to pursue a malicious prosecution action against Ellis if Ellis persisted in asserting that Heinz had slain the Black Brangus cows. In December 1981, the parties agreed to a settlement under the terms of which Ellis paid Heinz \$300 in damages and \$100 for attorney fees. Ellis's insurance company picked up the tab. By that time Heinz was spearheading a political campaign to close the range Ellis had been using.

The Heinz-Ellis and Hailey-McCall disputes share several characteristics. Although both arose in open range, in each instance legal authority favored the trespass victim: Hailey, because McCall's trespass had been intentional; and Heinz, because Ellis's animals had broken through an apparently lawful fence.⁹⁵ In both instances, the victim, before consulting an attorney, had attempted to obtain informal satisfaction but had been rebuffed. Each victim perceived that the animal owner had not been honest. Each dispute was ultimately settled in the victim's favor. In both instances, neither the trespass victim nor the cattle owner was well-socialized in rural Shasta County norms. Thus other respondents tended to refer to the four individuals involved in these two claims as "bad apples," "odd ducks," or otherwise as people not aware of the natural working order. Ordinary people, it seems, do not often turn to attorneys to help resolve disputes.⁹⁶

SUMMARY AND IMPLICATIONS

Coase's Parable of the Farmer and the Rancher, like most writing in law and economics, implies that disputants look solely to formal legal rules to determine their entitlements. In rural Shasta County, California, residents instead typically look to informal norms to determine their entitlements in animal trespass situations. In open-range areas, the norm that a livestock owner should supervise his

animals dominates the legal rule that a cattleman is not legally liable for unintentional trespasses on unfenced land. Trespass victims mainly employ negative gossip and physical reprisals against trespassing stock to discipline cattlemen who violate this norm.

In Shasta County, the law of trespass had no apparent feedback effects on trespass norms. In no instance did the legal designation of an area as open (or closed) range affect how residents resolved a trespass or stray dispute. Thus rancher Kevin O'Hara paid a neighbor for the loss of a corn crop because he "felt responsible," a feeling he said would not have been influenced by formal trespass law. Being located in closed range did not appear to make a trespass victim more likely to perceive a grievance or to exercise self-help. Insurance adjusters paid virtually no attention to the distinction between open range and closed range when settling trespass claims.

Other findings suggest the unreality of other literal features of the Coasean parable. Victims of stray cattle did not treat the formal legal rules as exogenous; they were aware that one way to use limited resources is to lobby for legal change. Victims' enforcement of their norm-based entitlements was far from complete; they ignored some trespasses altogether and used others to offset outstanding informal debts. Victims tended to shun monetary settlements and instead preferred in-kind transfers, including ones effected through self-help. Although these findings are at odds with the literal features of the Coasean parable, they are fully consistent with Coase's central idea that, regardless of the specific content of law, people tend to structure their affairs to their mutual advantage.

The Shasta County evidence suggests that law-and-economics scholars need to pay more heed to how transaction costs influence the resolution of disputes. Because it is costly to carry out legal research and to engage in legal proceedings, a rational actor often has good reason to apply informal norms, not law, to evaluate the propriety of human behavior. Contracts scholars have long known that norms are likely to be especially influential when disputants share a continuing relationship.⁹⁷ A farmer and a rancher who own adjoining lands are enduringly intertwined, and therefore readily able to employ nonlegal methods of dispute resolution. Law-and-economics scholars misdirect their readers and students when they invoke examples—such as the Parable of the Farmer and the Rancher—that greatly exaggerate the domain of human activity upon which the law casts a shadow.

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NOTES

This is an abridged version of an article originally published in the *Stanford Law Review* (vol. 38, February 1986). Sections II and III of the article ("The Politics of Cattle Trespass in the North-eastern Foothills" and "Research Methods") and their accompanying footnotes have been deleted from this version, as has the subsection, "Animal Trespass Law," of the chapter's original Section IV ("The Resolution of Animal Trespass Disputes in Shasta County").

A few stylistic notes are in order. Except for public figures the names used are pseudonyms. To reduce clutter, and sometimes to protect privacy, I have generally refrained from footnoting references to individual interviews. The present tense usually denotes the situation in Shasta County in 1982, the year in which I conducted most of my interviews.

1. Coase, *The Problem of Social Cost*, 3 J.L. & Econ. 1 (1960).
2. Some recent landmarks in the Coase Theorem literature are Cooter, *The Cost of Coase*, 11 J. Legal Stud. 1 (1982); Hoffman & Spitzer, *The Coase Theorem: Some Experimental Tests*, 25 J.L. & Econ. 73 (1982); Regan, *The Problem of Social Cost Revisited*, 15 J.L. & Econ. 427 (1972). A central theme of these articles is that Coase should have explicitly recognized the possibility that disputants may act strategically and thereby fail to carry out mutually advantageous exchanges. An unusually complete review of the literature is provided by Zerbe, *The Problem of Social Cost in Retrospect*, 2 Research in J. L. & Econ. 83 (1980).
3. See Coase, *supra* note 1, at 15-19 (titled "The Cost of Market Transactions Taken into Account").

Ronald Coase has in fact been a militant for the cause of empiricism. In recent years, he seems to have become increasingly frustrated with the sterility of the abstract debates over his theorem:

[W]hile considerations of what would happen in a world of zero transaction costs can give us valuable insights, these insights are, in my view, without value except as steps on the way to the analysis of the real world of positive transaction costs. We do not do well to devote ourselves to a detailed study of the world of zero transaction costs, like augurs divining the future by the minute inspection of the entrails of a goose.

Coase, *The Coase Theorem and the Empty Core: A Comment*, 24 J.L. & Econ. 183, 187 (1981).

The central finding of the present work is that the residents of Shasta County often succeed, without the involvement of the state, in coordinating with one another in a mutually advantageous way. Coase's Parable of the Farmer and the Rancher sounds the same general theme of cooperative interaction. This finding is generally consistent with what Coase found in his own microscopic investigation of the supply of lighthouses in England. See Coase, *The Lighthouse in Economics*, 17 J.L. & Econ. 357 (1974).

4. Several of Coase's colleagues at the University of Chicago wedded themselves to this assumption in the 1960s. See, for example, W. Blum & H. Kalven, *Public Law Perspectives on a Private Law Problem: Auto Compensation Plans 58-59* (1965); Demsetz, *When Does the Rule of Liability Matter*, 1 J. Legal Stud. 13, 16 (1972) (transaction costs "would seem to be negligible" when a baseball player negotiates with his club).

The current consensus, even among Chicagoans, is that negotiations in bilateral monopoly situations can be costly because the parties may act strategically. See, for example, R. Posner, *Economic Analysis of Law* 45 (2d ed. 1977); Cooter, Marks & Mnookin, *Bargaining in the Shadow of the Law: A Testable Model of Strategic Behavior*, 11 J. Legal Stud. 225, 242-44 (1982) ("The obstacle to agreement is the strategic nature of bargaining, not the cost of communicating"); Landes & Posner, *Salvors, Finders, Good Samaritans, and Other Rescuers: An Economic Study of Altruism*, 7 J. Legal Stud. 83, 91 (1978) ("transaction costs under bilateral monopoly are high"). See also sources cited at note 2 *supra*.

5. The terms "closed-range" and "open-range" can be a source of confusion. I use the terms throughout this article as they are ordinarily used in Shasta County, to denote the *legal regime* applicable to a particular territory. The potential confusion arises because the terms might be construed as indicating a *method of husbandry*—that is, whether in a particular area it is the custom of cattlemen to run their animals at large or to keep them behind fences. In Shasta

County, the correlation between legal regime and method of husbandry is rather weak. For example, most ranchers in the open-range areas of the county keep their herds behind fences.

6. To invoke Calabresi & Melamed's fruitful typology, a closed-range ordinance essentially shifts the legal regime from property-rule protection of the rancher to liability-rule protection of the trespass victim. See Calabresi & Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 Harv. L. Rev. 1089, 1105-1115 (1972). Hoffman & Spitzer, note 2 *supra*, at 84, deserve credit for noting that Coase had contrasted asymmetrical legal positions.

7. A number of other law-and-economics scholars have investigated empirically the impact of transaction costs on interneighbor coordination. See, for example, Cheung, *The Fable of the Bees: An Economic Investigation*, 16 J.L. & Econ. 11 (1973); Crocker, *Externalities, Property Rights, and Transactions Costs: An Empirical Study*, 14 J.L. & Econ. 451 (1971). The study closest to mine in its substantive focus, although not its methodology, is Vogel, *The Effect of Changes in Property Rights Entitlements on Production: The Coase Theorem and California Animal Trespass Law*, 15 J. Legal Stud.—(1986) (forthcoming) (regression analysis of effects of various closed-range ordinances on agricultural production in California counties between 1850 and 1877).

In recent years Elizabeth Hoffman and Matthew Spitzer have been the most persistent and creative transaction costs empiricists. See, for example, Hoffman & Spitzer, *supra* note 2 (report on a series of laboratory experiments in which subjects could achieve gains by cooperating); Spitzer & Hoffman, *A Reply to Kelman's "Consumption Theory, Production Theory, and Ideology in the Coase Theorem"*, 53 S. Cal. L. Rev. 1187 (1980) (study of the effect of the elimination of the Reserve Clause on the movement of baseball players between clubs).

8. Any discussion of a chasm between academic subcultures brings to mind C.P. Snow's classic 1959 lecture on "The Two Cultures." Snow used as his polar opposites literary intellectuals and physical scientists, and speculated on whether social scientists represented yet a third culture. C.P. Snow, *The Two Cultures and a Second Look 70-71* (1964). The chasm that I identify is a division between groups of social scientists. It suggests that Snow was understandably in a quandary about how to classify members of the social scientific disciplines.

9. The core journals are the *Journal of Law and Economics* and the *Law & Society Review*.

10. I borrow the term "microscopic" from Clifford Geertz, an anthropologist noted for his devotion to "thick descriptions" of human interaction. See, for example, C. Geertz, *The Interpretation of Cultures* 3-30 (1973).

11. In preparing his classic article, *Non-Contractual Relations in Business: A Preliminary Study*, 28 *Am. Soc. Rev.* 55 (1963), Macaulay interviewed business executives and lawyers to find out how Wisconsin manufacturing firms resolve contractual disputes. Ross's best known work is *H. Ross, Settled Out of Court* (rev. ed. 1980), which describes how insurance adjusters process claims covered under automobile liability policies. Notable also is Ross & Littlefield, *Complaint as a Problem Solving Mechanism*, 12 *Law & Soc'y Rev.* 199 (1978), a study of how a large appliance retailer in Denver handles consumer complaints.

Law-and-society scholars have done relatively little field work on dispute resolution between adjoining landowners. *But see*, for example, Baumgartner, *Social Control in Suburbia*, in 2 *Toward a General Theory of Social Control* 79 (D. Black ed. 1984); Ruffini, *Disputing over Livestock in Sardinia*, in *The Disputing Process: Law in Ten Societies* 209 (L. Nader & H. Todd eds. 1978) (finding that shepherds in Sardinia rely on self-help, not formal legal processes, to resolve rustling disputes). Economists have also done little field work on relations among neighbors. *But see* sources in the first paragraph of note 7 *supra*.

There is a broad interdisciplinary perception that progress in understanding conflict resolution depends upon more low-level empirical work. See, for example, R. Hardin, *Collective Action* 229-30 (1982) (comments of a philosopher-game theorist). See also Felstiner, *Influences of Social Organization on Dispute Processing*, 9 *Law & Soc'y Rev.* 63, 86 n.28 (1974) ("Ironically, we have better data about dispute processing in Indian villages, Mexican towns, and East African tribes than we have about that process in American communities." (comments of a law-and-society scholar)).

12. See note 3 *supra* and accompanying text.

13. *Record Searlight* (Redding, Cal.), Aug. 11, 1982, at 15, col. 1.
14. In July, the city's average daily high temperature is 98 degrees. *Id.* at 14, col. 3.
15. Of the 2.4 million acres of land in Shasta County, 1.3 million have been identified as "commercial forest." Cal. Dept. of Finance, Cal. Statistical Abstract 2, 129 (1983). The United States Forest Service owns 35 percent of this commercial forest, and forest industry companies own 46 percent. *Id.* at 129.
16. *Id.* at 111 (citing data from the 1978 U.S. Census of Agriculture).
17. *Id.* at 2, 111.
18. E. Peterson, In the Shadow of the Mountain: A Short History of Shasta County, California 110 (1965). Coase's parable involves a pasture adjoining a field of annually harvested crops. These land uses are rarely contiguous in Shasta County. The lessons of the parable, however, in no way depend on how the rancher's neighbor uses his land.
19. The Roseburg Lumber Company is a closely held corporation based in Roseburg, Oregon. It is controlled by Kenneth Ford, a self-made man whom *Forbes* magazine has listed as one of the forty wealthiest persons in the United States. *San Francisco Chronicle*, Aug. 28, 1982, at 14, col. 4. When Roseburg purchased its forests in the Northeastern sector in 1979 from the Kimberly-Clark Corporation, it became the fourth timber company to own these lands since the early 1940s.
20. In 1930, the country's population was 13,927. U.S. Dept. of Commerce, Bureau of the Census, 15th Census of the United States, vol. 3, pt. 1, at 284 (1932).
21. U.S. Dept. of Commerce, Bureau of the Census, 1980 Census of Population, vol. 1, pt. 6, ch. A, table 4 (1982). In 1980, 42,000 people lived in the city of Redding. *Id.* By 1984, the city's estimated population exceeded fifty thousand, and Shasta County achieved the status of a Standard Metropolitan Statistical Area.
22. Calculated from data in the 1980 Census of Population.
23. In 1981, Shasta County had 8.7 dissolutions and nullities of marriage per one thousand estimated persons, compared to a statewide figure of 5.8 per thousand. State of Cal. Dept. of Health Servs., Vital Statistics of California—1981, at 128 (1983).
24. Census data put the county's unemployment rate at 13.8 percent, compared to the state's 6.5 percent. U.S. Dept. of Commerce, Bureau of the Census, 1980 Census of Population and Housing, Advance Estimates of Social, Economic, and Housing Characteristics. The timber industry, an important factor in the Shasta County economy, was in a deep slump in 1980, a factor that no doubt contributed to this disparity.
25. The population of what the Census Bureau calls the Central Shasta division increased from 3,049 in 1970 to 6,784 in 1980, or by 122 percent. U.S. Dept. of Commerce, Bureau of the Census, 1980 Census of Population, vol. 1, pt. 6, ch. A, table 4, n.41 (1982). This division includes both the Northeastern Sector and larger rural territories to the north, south, and southeast.
26. The first pioneers to settle east and northeast of Redding used the grasslands and lower foothills to raise livestock. The descendants of the nineteenth century pioneer families—Coombs, Donaldson, Wagoner—still hold a special place in rural Shasta County society. Oldtimers are quick to identify their roots in the county, and sometimes refer to families who arrived a generation ago as "people who haven't been here very long."
- Prior to the 1920s, the Southern Pacific Railroad owned alternate sections in the grassy plains—a reward from the United States for laying track to Redding. The government grant consisted of alternate sections for a distance of 20 miles on both side of the track. S. Dagggett, Chapters on the History of the Southern Pacific 50, 122 (1922). During the 1920s, the Southern Pacific sold off most of its grassland sections at the then market price of \$2.50 to \$5.00 per acre, thereby enabling the pioneer ranching families to consolidate their holdings. Abandoning their prior practice of running their herds at large, these families erected fences around their multi-thousand-acre spreads, cleared patches of brush, and began to irrigate their better pastures.

27. Interview with Robert Shaw, Redding-based appraiser (July 19, 1982). Mr. Shaw attributed the low returns to tax benefits and psychic income that ranching confers.
- Cattle ranching is noted for skimpy financial returns. See Arthur D. Little, Inc., Final Environmental Statement, Proposed Livestock Grazing Program, BLM Cerbat/Black Mountains Planning Units II-139 to -142 (1978) (returns to cattle ranching in Arizona range from negative to a positive 1 to 2 percent; ranchers do it for love); Charlier, *Home on the Range is a Part-Time Deal for Many Cowboys*, *Wall Street Journal*, Jan. 8, 1985, at 1, col. 4.
28. Some of the new development has been for second homes. Celebrities such as baseball pitcher Vida Blue, actor Clint Eastwood, country singer Merle Haggard, and ex-congressman Pete McCloskey are among those who have purchased properties in the rural areas east of Redding.
29. John Williams of the Redding office of the Title Insurance & Trust Co. generously permitted me to use the firm's tract indexes. These indexes showed that in 24 sections near the southern border of Catoñ's Folly, the number of land parcels increased from 61 in 1930, to 145 in 1972, to 295 in 1982.
- Countywide, the number of land parcels quadrupled between 1967 and 1982. Interview with Tony Estacio, Chief, Administrative Services, Assessor's Office of Shasta County (July 8, 1982). These recent rates of parcelization appear atypically high for rural land markets. See R. Healy & J. Short, *The Market for Rural Land* 22 (1976) (in only one of five counties studied did the number of rural land parcels double between 1954 and 1976).
30. Although women own, manage, and provide most of the physical labor on a number of the ranches in Shasta County, rural culture generally supports the differentiation of sex roles. Thus a woman rancher who wishes to be active in the county Cartlemen's Association is likely to participate only in the CowBelles, the women's auxiliary. The National Cartlemen's Association did recently elect its first woman president, JoAnn Smith, but she had come to prominence by serving as president of the Florida CowBelles. *New York Times*, Apr. 24, 1985, at C1, col. 1.
31. See *San Francisco Chronicle*, Aug. 26, 1982, at 38, col. 2.
32. Per capita beef consumption peaked at 95.7 lbs. in 1976, and by 1981 had fallen to 78.3 lbs., as consumers shifted toward poultry and pork. *New York Times*, Aug. 9, 1981, § IV, at 22, col. 3.
33. These categories inevitably oversimplify. For example, Dick Coombs and Chuck Searle employ modernist land-management and husbandry practices, yet continue the traditionalist practice of leasing mountain forest for summer range.
34. The classic study of cartlemen operating on unfenced range is E. Osgood, *The Day of the Cartleman* (1929) (emphasizing practices in Wyoming and Montana during the latter part of the Nineteenth Century). On the history of traditionalist practices in California, see R. Cleland, *The Cattle on a Thousand Hills* (2d ed. 1951); D. Dary, *Cowboy Culture* 44-66 (1981).
35. An "animal unit" is a mature cow plus calf, or the equivalent in terms of forage consumption. A horse converts to 1.25 animal units, a sheep to 0.2 animal units, and so on. An "animal unit month" (AUM) is the amount of forage an animal unit consumes in one month of grazing. H. Heady, *Rangeland Management* 117 (1975).
36. These two agencies manage most of the vast federal holdings in the county. Altogether, federal agencies own 42 percent of the county's acreage. Walter H. Johnson, *Agriculture as a Competitor for Land*, in *Economic Competition for Land: Shasta County* 48 (Univ. of Cal., Agric. Extension Serv. 1966).
37. A specialist in brokering private grazing leases stated that most of his landowner-lessee relationships had endured for decades. Interview with Jim Cochran, Wm. Beatty & Assocs., in Redding, Ca. (July 21, 1982).
38. See 43 U.S.C.A. §§ 315b, 1752 (Supp. 1983).
39. Interviews with Terry Brumley of the U.S.F.S., in Redding, Ca. (Aug. 9, 1982), and Paul McClain of the B.L.M., in Redding, Ca. (July 9, 1982).
40. Untimely grazing may damage rangeland. If grazing occurs too early, it may kill immature grass; if it occurs too late, the livestock may eat seeds needed for the following year's forage. Grazing leases therefore regulate entry and exit dates.

41. A cattleman needs at least ten acres of unirrigated land per AUM for winter range. If he were to irrigate 10 percent of this acreage, he would have enough irrigated pasture for summer range. Instead of irrigating, a modernist who prefers operating behind fences may move his herds to fenced summer grasslands located in the high mountain valleys of Superior California. ("Superior California" is a regionally popular geographical designation that, unlike "Northern California," distinguishes the northernmost counties from the Bay Area.)

42. See generally H. Heady, *supra* note 35, at 253-55, 258, 280-329. On controlled burns, see also Cal. Pub. Res. Code §§ 4475-94 (West Supp. 1981) (delineating the role of the State Department of Forestry); L. Stoddard & A. Smith, Range Management 383-94 (1943) (describing the effects of burning upon various types of rangeland).

43. See Coase, note 1 *supra*, at 3, 5.

44. Rancher Dick Coombs, the epitome of honor in rural Shasta County, counseled that "[I]f you don't fence, your neighbors get your cattle, and their cattle get your feed."

During the nineteenth century, when cattlemen let their stock loose on the Great Plains during the winter, even the best managers were likely to lose 5 percent of their mature animals each grazing season. D. Boorstin, *The Americans: The Democratic Experience* 10 (1973). In the Northwest during the same time period, losses ran about 10 percent. J. Oliphant, *On the Cattle Ranges of the Oregon Country* 240-41 (1968). In Wyoming and Montana, during the disastrous winter of 1885-86, blizzards killed 85 percent or more of the livestock in some herds. E. Osgood, note 34 *supra*, at 216-18.

45. These are rough averages of figures that ranchers and grazing-lease specialists offered in interviews. For the definition of "animal unit month," see note 35 *supra*.

46. The quality of forage of course varies from pasture to pasture, and is apt to be better where a landowner has deliberately tried to cultivate his grasses.

47. D. Dary, *supra* note 34, at 308-31, recounts the impact of the advent of barbed wire on ranching practices nationally. Before barbed wire, the fencing-in of cattle was generally not economical in California. R. Cleland, *supra* note 34, at 62.

A standard barbed-wire fence will not contain sheep or hogs. To fence in those animals, Shasta County landowners use woven wire (which they variously refer to as "netting," "hog-wire," or "field fence") for the bottom 39 or 47 inches of fence, and top it off with one to three strands of barbed wire. Because many ranchers in Shasta County owned sheep and swine a half century ago, many boundary fences there still contain woven wire.

Other types of boundary fences, such as electrified fences, are uncommon. However, an owner of horses may use board fencing, rather than barbed wire, to eliminate the risk that bars pose to the coats of show animals. A natural barrier such as a gulch or a dense growth of brush may obviate the need for any type of boundary fencing. On fence technology, see generally U.S. Dept. of Agric., Farmers' Bull. No. 2247: Fences for the Farm and Rural Home (1971).

48. Cal. Agric. Code § 17121 (West 1968).

49. Because he believed his existing three-strand fence to be inadequate, rancher Dick Coombs persuaded his neighbor Ed Donaldson to join him in adding a fourth strand to their common boundary fence. Walt Johnson, the County Farm Advisor, recommends that barbed wire fences have five strands, and this is what Al Levy installed on the long stretch of new fence on the southern boundary of his marmoth ranch.

A rancher often erects "cross" or "division" fences to subdivide his own pastureland into separate fields. These fences enable a rancher to rest a pasture that would be damaged by further grazing, to control breeding, and to keep livestock away from a controlled burn.

Ranchers tend to invest less time and money in their cross fences than in their boundary fences, in part because a breach in a cross fence is less likely to result in the loss of an animal. Al Levy admitted to using only four strands for his cross fences and to not maintaining them quite as well as his five-strand boundary fences.

50. A half-century ago, most Shasta County ranchers made their own fence posts by splitting logs. Should his own ranchland have lacked an adequate supply of logs, a rancher would have

contracted with a private timber company to obtain the right to split downed cedar trees in the mountain forests.

Today, farm supply stores offer ready-made steel and wooden posts. Ranchers typically prefer the steel posts because they are less expensive, easier to drive into rocky soil, and more likely to survive a controlled burn. Wooden posts are still essential at corners, gates, stretch panels, and other places where extra strength is needed.

51. Interview with Carl Yokum of Northwest Fence, in Palo Cedro, Cal. (Aug. 11, 1982).

Technological advances—particularly the invention of barbed wire—have made fencing much less expensive relative to land and labor than it was in Abraham Lincoln's log-splitting days. Today, a newcomer to rural Shasta County would spend in the neighborhood of \$40,000 to purchase a forty-acre ranchette, but for one-tenth of that sum he could hire a contractor to fence it with barbed wire. In the 1850s, "[i]t was certainly a rare farm-maker who had not to invest more capital—or its equivalent in labor in the case of forested areas—in his fence than in land." Danhof, *Farm-Making Costs and the "Safety Value": 1850-60*, 49 J. Pol. Econ. 317, 345 (1941). Fencing costs in California during the 1850s are estimated to have been \$300 to \$600 per mile in the currency of the time. *Id.* at 345 n.78. See also *Meade v. Watson*, 67 Cal. 591, 595, 8 P.311, 313 (1885) (complaint asserted "value" of a stone boundary fence to be \$1.75 per rod or \$560 per mile). In the latter part of the nineteenth century, mean family income in the United States was on the order of \$600 to \$800 per year. See Bureau of the Census, U.S. Dept. of Commerce, 1 Historical Statistics of the United States: Colonial Times to 1970 322 (1975). Before the arrival of barbed wire, a mile of fence thus cost about as much as an average family's annual income. In 1981, the mean family income in the United States was \$24,000. See Bureau of the Census, U.S. Dept. of Commerce, Statistical Abstract of the United States 1982-1983, at 435 (1982). That income would have then been sufficient to purchase the installation of at least five miles of barbed wire fence in Shasta County.

52. I found only one rancher, and no ranchette owner, who admitted having contracted-out fencing work. The fence contractors of Shasta County agreed that the vast majority of rural fencing is done on a do-it-yourself basis. Walt Johnson, the astute farm advisor for Shasta County, could not identify the name of a single fence contractor.

53. To qualify as "lawful," a barbed wire fence in California must have its top strand at least forty-eight inches above the ground. Cal. Agric. Code § 17121 (West 1968). Farm experts recommend that the top wire of a five-strand fence be elevated fifty-two inches. See Fences for the Farm and Rural Home, *supra* note 47, at 17. The risk of damage from jumping deer has induced some fence contractors to warn against placing the top strand too high.

54. Veteran rancher and ex-supervisor Norman Wagoner estimated that a cattleman working alone can inspect and repair a fence at a rate of about two miles per day.

55. Rancher Owen Shellworth estimated that he spent 25 percent of his work on fences, including corral fences.

56. I did not learn of a single instance in which a forest owner, or a traditionalist cattleman who leased a forest for summer range, had fenced a forest boundary.

57. But they have not provoked all of them. Farm Advisor Walt Johnson could recall several instances in which the trigger had been a rancher, ostensibly operating behind fence, who had deliberately turned out his animals onto neighboring lands.

58. See, for example, Calabresi & Melamed, note 6 *supra*, at 1090-91 (assuming that the "state" is the sole source of entitlements).

59. John Woodbury suffered almost weekly incursions into his alfalfa field in 1973. Although the situation improved when many of the mountain lessees subsequently declined to renew their leases, Woodbury was still experiencing a couple of cattle trespasses a year in the early 1980s. Another hay farmer, Phil Ritchie, identified six neighbors whose cattle had trespassed on his lands in recent years.

60. Beef cattle eat feed equal to about 2-1/2 percent of their body weight each day. Division of Agric. Sci., Univ. of Cal., Leaflet No. 21184, Beef Production in California 12-13 (Nov. 1980).

61. *Cf.*, Cal. Agric. Code § 16803 (West 1968) (cattlemen grazing herds on open range must include at least one bull for every thirty cows). The refinement of artificial insemination techniques has enabled some ranchers to reduce the fraction of bulls in herds kept behind fences.
62. A Hereford bull has a mature weight of 2,000 pounds, compared to 1,100–1,200 pounds for a mature Hereford cow. Steers (castrated male cattle) are typically slaughtered when they weigh between 1,000 and 1,150 pounds. Beef Production in California, note 60 *supra*, at 3, 5.
63. I learned of no cattle trespasses that had resulted in personal injury. Two insurance adjusters who frequently had been called upon to settle dog-bite claims could remember, between them, only one personal-injury claim arising from cattle—an instance in which a cow had stepped on someone's foot.
64. Bogue is a Shasta County employee; Jordan is an employee of the California Bureau of Livestock Identification.
65. Eleven correctly stated they lived in open-range; eight correctly stated they lived in closed-range; one gave a flatly wrong answer; one, a partially wrong answer; and two "didn't know."
66. My interviewees were disproportionately active in local politics; two had obtained copies of the Department of Public Works closed-range map in conjunction with their political endeavors.
67. Of 11 respondents asked, only three stated that they had known when they bought their land what kind of "legal range" it lay in.
68. This startling finding can be attributed to the fact that trespass and estray claims are virtually never processed through the formal legal institutions of Shasta County.
69. Some legal specialists conceivably may also believe that the negligence principle is in every application normatively superior to the principle of strict liability.
70. Additionally, neither of the two fence contractors interviewed had any notion of these boundaries. The county tax assessor assigned to the Oak Run–Round Mountain area was equally unfamiliar with the closed-range map.
71. In his study of the settlement of automobile-liability claims, Ross found the law-in-action to be simpler and more mechanical than the formal law, but he did not find it to be quite as disconnected as I found it in trespass cases. *See* H. Ross, note 11 *supra*, at 134–35, 237–40. One might expect formal liability law to be particularly toothless when it applies to situations—such as animal trespass incidents—that generate few insurance claims and for which the claims are almost always for paltry monetary amounts.
72. The scholars involved in the Civil Liability Research Project have attempted to standardize the vocabulary of dispute resolution. They use "grievance" to describe a perceived entitlement to pursue a claim against another, "claim" to describe a demand for redress, and "dispute" to describe a rejected claim. *See*, for example, Miller & Sarat, *Grievances, Claims, and Disputes: Assessing the Adversary Culture*, 15 *Law & Soc'y Rev.* 525, 527 (1980–81). I am less precise and employ these terms loosely, as they tend to be employed in ordinary speech.
73. *See* Coase, *supra* note 1, at 15.
74. This now-familiar phrase originated in Mnookin & Kornhauser, *Bargaining in the Shadow of the Law: The Case of Divorce*, 88 *Yale L.J.* 950 (1979).
75. *See* notes 3, 12 *supra* and accompanying texts.
76. Law-and-economics scholars often employ models that explicitly assume that actors have perfect knowledge of legal rules. *See*, for example, A. Polinsky, *An Introduction to Law and Economics* 37–49 (1983) (assuming drivers and pedestrians know personal injury law); Shavell, *An Analysis of Causation and the Scope of Liability in the Law of Torts*, 9 *J. Legal Stud.* 463, 471 (1980).
77. Although the rural landowners were emphatic about the importance of neighborliness and could offer many specific examples of neighborly behavior, they never articulated a general formula for how a rural resident should behave. In my book on Shasta County I hypothesize that the specific norms they honored were wealth maximizing, and explore how wealth-maximizing norms might evolve.

For other discussions of the role of nonlegal norms in dispute settlement, see Eisenberg, *Private Ordering Through Negotiation: Dispute-Settlement and Rulemaking*, 89 *Harv. L. Rev.* 637, 638–65 (1976); Macaulay, note 11 *supra*, at 61–62.

78. A trespass victim who cannot recognize the brand of the intruding animal—a quinary more common for ranchette owners than for ranchers—may telephone county authorities. Calls of this sort are eventually referred to the brand inspector or animal control officer, who then regard their main priority to be return of the animal to its owner.
79. One rancher reported that during the winter he expects to find thirty to forty deer grazing in his hayfield each night. The owner of a particularly large ranch estimated that about five hundred deer winter there—a condition he likes, because deer are "part of nature." John Woodbury, an alfalfa farmer and key lobbyist for the passage of the Caton's Folly ordinance, stated that elk and deer had eaten more of the grass in his alfalfa field than mountain cattle ever had.
80. Brand Inspector Bruce Jordan estimated that ranchers drop off approximately three hundred head of stray livestock at the auctionyard each year and that these ranchers typically decline to seek compensation from the owners of the strays.
81. *See* R. Kidder, *Connecting Law and Society* 70–72 (1983). The law-and-society literature has long emphasized that law is not likely to be important to parties enmeshed in a continuing relationship. For example, Marc Galanter has observed:
- In the American setting, litigation tends to be between parties who are strangers. Either they never had a mutually beneficial continuing relationship, as in the typical automobile case, or their relationship—marital, commercial, or organizational—is ruptured. In either case, there is no anticipated future relationship. In the American setting, unlike some others, resort to litigation is [usually] viewed as an irreparable breach of the relationship.
- Galanter, *Reading the Landscape of Disputes: What We Know and Don't Know (and Think We Know) About Our Allegedly Contentious and Litigious Society*, 31 *U.C.L.A. L. Rev.* 4, 24–25 (1983) (brackets in original).
82. *Cf.* A. Vidich & Bensman, *Small Town in Mass Society* 34 (rev. ed. 1968):
- To a great extent these arrangements between friends and neighbors have a reciprocal character: a man who helps others may himself expect to be helped later on. In a way the whole system takes on the character of insurance. Of course some people are more conscious of their premium payments than others and keep a kind of mental bookkeeping on "what they owe and who owes them what," which is a perfectly permissible practice so long as one does not openly confront others with unbalanced accounts.
83. *See* O. Williamson, *Markets and Hierarchies* 256–57 (1975) (a party to a continuing relationship seeks to achieve a favorable balance in the overall set of interactions, not in each separate interaction).
84. *See generally* Black, *Crime as Social Control*, 48 *Am. Soc. Rev.* 34 (1983) (a trenchant assessment of the phenomenon of self-help).
85. *See* Merry, *Rebbiting Gossip and Scandal*, in 1 *Toward a General Theory of Social Control* 271 (D. Black ed. 1984).
86. Two respondents admitted that they had done this.
87. Cal. Penal Code § 597(a) (West Supp. 1985); *People v. Dunn*, 39 *Cal. App.* 3d 418, 114 *Cal. Rptr.* 164 (1974).
88. *Cf.* Engel, *Cases, Conflict, and Accommodation: Patterns of Legal Interaction in an American Community*, 1983 *Am. B. Found. Res.* 803, 821 (role of complaints to public officials in a rural Illinois county).
89. Investigators have found norms against litigation in other social environments. *See* Engel, note 88 *supra*, at 816–22, 851–56 (rural Illinois county); Macaulay, note 11 *supra*, at 64 (Wisconsin businessmen).

90. In the Burney Justice Court, the 1980 small claims files showed no animal trespass cases, and the clerks could recall no such cases in their four years on the job.
In the Central Valley Justice Court, no small claims for the 8/81 to 6/82 period involved animal trespass, and the civil clerk who had worked there for eleven years could not remember any. The index of defendants for the 1975 to 1982 period indicated that Frank Ellis was the only large rancher to become the target of any kind of legal action.
91. I did hear several secondhand reports of informally settled claims for the costs of boarding estrays. Only one rancher told of paying such a claim; he regarded the claimant's pursuit of the money as a "cheap move."
92. A donor who wishes to symbolize an intimate relationship typically gives, not currency, but a gift that apparently required special effort to prepare. See Landia, *The Enigma of the Kula Ring: Gift-Exchanges and Primitive Law and Order*, 3 Int'l Rev. L. & Econ. 137, 152 (1983) (Melanesians return armshells for necklaces because to return a necklace for a necklace would be interpreted as a rejection of friendship). See generally M. Mauss, *The Gift* (1967).
93. *Heinz v. Ellis*, No. 81 SC 7 (Cent. Valley Just. Ct. filed Jan. 8, 1981).
94. *Ellis v. Heinz*, No. 81 CV 6 (Cent. Valley Just. Ct. filed Jan. 16, 1981).
95. Heinz had technically imperiled his statutory claim for damages under the Estray Act when he failed to notify the proper authorities promptly that he had taken up Ellis's animals. See Cal. Agric. Code §§ 17042, 17095 (West 1967).
96. See also W. Nelson, *Dispute and Conflict Resolution in Plymouth Colony, Massachusetts 1725 to 1825* (1981) (Plymouth's particularly litigious individuals during the 1725 to 1774 period tended to be people who were poorly socialized); Todd, *Litigious Marginals: Character and Disputing in a Bavarian Village*, in *The Disputing Process: Law in Ten Societies*, note 11 *supra*, at 86, 118 (socially marginal people were disproportionately represented in civil and criminal litigation).
97. See, for example, Macaulay, note 11 *supra*; Macneil, *The Many Futures of Contracts*, 47 S. Cal. L. Rev. 691, 715 (1974).

Cultural Beliefs and the Organizational Reflection on A Historical and Theoretical Reflection on Collectivist and Individualist Societies

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The organization of a society—its economic, legal, political, social, and moral enforcement institutions, together with its social constructs and information transmission and coordination mechanisms—profoundly affects its economic performance and growth. It determines the cost of various feasible actions as well as wealth distribution. Although this theme goes back at least to Adam Smith, it has recently been the focus of historical and theoretical studies. For example, North (1991) attributed the growth performance of nations throughout history to differences in their enforcement mechanisms. North and Weingast (1989) claimed that England's unique political institutions encouraged economic growth. Marimon (1988) examined the growth rate attainable under various enforcement mechanisms, and others (for example, Banerjee and Newman 1993) explored the relations between wealth distribution and growth due to credit market imperfections and investment in human capital.

Indeed, social psychologists have found societal organization to be highly correlated with per capita income in contemporary societies: most of the developing countries are "collectivist," whereas the developed West is "individualist." In collectivist societies the social structure is "segregated" in the sense that each individual socially and economically interacts mainly with members of a specific religious, ethnic, or familial group in which contract enforcement is achieved through "informal" economic and social institutions, and members of collectivist societies feel involved in the lives of other members of their group. At the same time, noncooperation characterizes the relations between members of different groups. In individualist societies the social structure is "integrated" in the sense that economic transactions are conducted among people from different groups and individuals shift frequently from one group to another. Contract enforcement is achieved mainly through specialized organizations such as the court, and self-reliance is highly valued.¹

Economic anthropologists, economic historians, and theorists have long conjectured that cultural variations account for intersociety differences in societal organizations. Yet, little is known about the origins of various systems of societal organization and the factors that make these systems path dependent.² Thus we cannot address a question that seems to be at the heart of developmental failures: why do societies fail to adopt the organization of more economically successful ones?

This chapter presents a historical and game-theoretical analysis of the rela-