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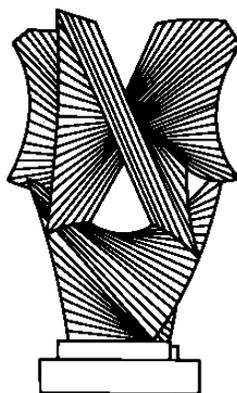
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The Optimal Complexity of Legal Rules

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THE OPTIMAL COMPLEXITY OF LEGAL RULES

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The Optimal Complexity of Legal Rules

by Richard A. Epstein

ABSTRACT

Legal systems must deal not only with the cognitive limitations of ordinary individuals, but must also seek to curb the excesses of individual self-interest without conferring excessive powers on state individuals whose motives and cognitive powers are themselves not above question. Much modern law sees administrative expertise as the solution to these problems. But in fact the traditional and simpler rules of thumb that dominated natural law thinking often do a better job in overcoming these cognitive and motivational weaknesses. The optimal strategy involves the fragmentation of government power, and the limitation of public discretion. Three types of rules that help achieve this result are rules of absolute priority, rules that judge conduct by outcomes not inputs, and rules that use simple proration formulas to allocate benefits and burdens.

COGNITION AND MOTIVATION

There is both an evident disjunction and a strong relationship between the disciplines of psychology and law. Psychology seeks to isolate the mainsprings of human behavior. Thus, it requires a detailed understanding of both the emotions, positive and negative, that influence behavior and the peculiar sensory and intellectual processes that allow people to make sense of the external world in day-to-day affairs. Often the cognitive and emotional sides of human beings work in tandem: sometimes people work better under pressure when their emotions lead to a heightened responsiveness to danger. The law for its part is concerned with the external rules, backed by the force of the sovereign, that guide and limit human behavior (Hart, 1961). The linkage between these two disciplines, therefore, runs as follows. It is only possible to select legal rules (alone and in combination with social sanctions) to advance any social goal by understanding

the (range of) responses that people will display toward the announcement and enforcement of these rules.

In its largest sense, my task on this occasion is to give a modern elaboration of one of the central problems in social theory: determine what is the nature of man (writ large) and then decide what set of legal rules will bring out the best in human beings, by some measure of social welfare, as they are. That massive inquiry, evidently, must be broken down into smaller tasks to have any hope of success. In this context, the particular assignment is to ask what is the optimal level of complexity of legal rules to achieve that social end. In one sense, this task would be far easier if the only problem was how each individual chooses the best course of action for himself. But individual interests often clash in a world of scarcity, so that a legal system must do more than “correct” the imperfect powers of cognition and calculation to which all individuals are prey. It must also work on the motivational dimension to constrain those antisocial behaviors in which the gains to one person or group come at the expense of another, where typically we are on balance confident that the losses in question are greater than the gains observed. If the only task of a legal system were to help individuals make accurate decisions, the task of formulating the optimal legal rules would be massively simplified. But legal rules must also constrain the set of permissible ends in addition to solidifying any means/ends connections. This dual concern often leads to a conscious effort to make certain collective decision processes *more* procedurally complex, and then in the next breath to limit the discretion of those who make the decision by adopting simple rules that set clear boundaries for human behavior (Epstein, 1995; Epstein, 2003).

One possible mode to achieve these two ends is to engage in complex efforts to maximize some conception of social utility, which for these purposes we can take as well-defined. That approach in the social sphere mirrors individual efforts of utility maximization in the private sphere. On this point, I agree heartily with the position taken by Gigerenzer, Todd, and the ABC Research Group that it is by and large a pipe dream to assume that any formal, or closed-form, solution will provide guidance at either the individual or the social sphere (Gigerenzer, 1999). Instead, decision rules in individual cases proceed indirectly, by resort to rules of thumb, whereby people make first crude,

and then more subtle refinements of the basic position. One or two key elements are isolated from the welter of factors in each situation, and decisions are made with reference to them, often to the exclusion of other factors that would bear on the overall decision under some idealized model. The more grounded and concrete the context, the less likely that individuals will fall prey in their daily lives to the endless array of cognitive biases that have been identified in the path-breaking work of Daniel Kahneman and Amos Tversky (Tversky, 1974).

The exact same process can take place in the design of legal rules to govern the social sphere. The designer of any social system could seek to design an ideal set of institutions that leads to the maximization of social utility in all future states of the world, or he could concentrate on a few key variables in the equation, and leave the rest for another day. I have no doubt that this oversimplified procedure works better than the more self-conscious efforts to achieve efficiency or social utility (Posner, 2003). In law we often proceed, albeit in unsystematic fashion, by the method of presumptions, where first one side, and then the other, states a *reason* why liability should be imposed or blocked, and the full picture only comes after each side runs out of additional things that it wishes to say on its behalf (Epstein, 1973). To give but one simple version of this, a system that seeks to minimize the use of force will often do better in promoting overall social utility by indirection than one that simply tries to maximize social utility head on. Once that first task is delineated, social institutions can be designed that help achieve it, after which it becomes possible to look for incremental improvements. The first cut might be “don’t hit anyone else.” The second cut might then provide “except in self-defense.” This difference in attitude is reflected in the design of both public and private law. Let us look to how the structure emerges, starting with the design of public institutions, and then turning to the private law.

PROPERTY, CONTRACT, AND THE STATE

The Governance Challenge

The starting point for this analysis is the standard account that posits that, for good evolutionary reasons, individuals have certain well-behaved utility functions in

which more is better, when judged by subjective standards. In general, there is enough in common between individuals because of their human origin that the things—broadly conceived, to cover not only such essentials as food clothing and shelter, but various forms of sociability—that tend to work for the benefit of one individual are the things that tend to work for the benefit of another. That is why they are called “goods” in the first place. But even if what counts as a good is more or less uniform across people, the intensity of their preferences will differ among them so long as the variance in demand for these goods is not zero, which it never is. That differential level of desire allows for possible gains from (voluntary) trade so long as the property rights that separate individuals are clear enough to facilitate exchange and cooperation (Coase, 1960). Those market institutions, however, are not self-sustaining, because the property rights on which they rest cannot be created by contract. No set of feasible voluntary transactions will allow any “owner” to bind the rest of the world to forbear from the interference with his person or property. Some positive legal norm must impose “keep off” signs to set the social framework in which two- (or multiple-) party voluntary transactions take place. That in turn requires the imposition of some system of taxation to fund the creation of public goods, such that each person is ideally benefited by an amount greater than the tax imposed to achieve that social investment. Markets operate best in that intermediate zone of human behavior, between the initial collective decisions to create property rights in individuals or in external things, and the creation of state institutions, operated by real persons, whose job it is to define and enforce the rights in question.

This brief description of social relations points to a government with strong coercive powers that operates only within well-defined spheres to achieve its primary objectives—the maintenance of the order and infrastructure that make voluntary transactions possible. These transactions should not be understood in a narrow economic sense: voluntary organizations with educational, charitable, or political objectives also fall within the class of protected activities. This vision of the world owes a good deal to the writings of Thomas Hobbes (1651); John Locke (1690); David Hume (1739); Adam Smith (1776); James Madison (1788), one of the founders of the American Constitution; and in more modern times, Friedrich Hayek (1960). What is the optimal complexity of law within this sort of framework? That answer depends in part on what we think to be

the greatest obstacles toward the achievement of a stable political order. Here the modern preoccupation with behavioral economics and cognitive limitations tends to find the weak link in human behavior in the ability to integrate information and to calculate the odds of future events. Expected utility calculations are a mirage for all concerned (Kahneman, 1982).

The Administrative State

One possible implication of this view is that voluntary exchanges frequently founder because ordinary individuals are not intelligent or rational enough to be able to calculate the odds, and cannot be trusted to make key decisions without relying on state-supplied information or abiding by state protective rules. If cognition and calculation are the chief problems with which any government must cope, there is a natural tendency to accept the delegation of core, critical decisions to government officials on the ground that their greater *expertise* allows them to make these decisions with fewer errors than naïve individuals. The rise of the administrative state in the United States and Western Europe owes much to the perception that incompetence, not self-interest (let alone corruption), is the largest obstacle to sound government (Stewart, 1975). The upshot is a set of discretionary laws that delegate extensive responsibility to particular administrative agencies whose job is to announce and implement rules to advance the “public interest, convenience and necessity”(Coase, 1959; Hazlett, 1990). The administrative agency typically propounds directives that rely on multi-factored tests, without specific weights, for making allocative decisions. Thus, the Federal Communications Commission assigns and renews broadcast licenses not by bid, but by asking each applicant to explain in detail how it will best serve the local community in accordance with loose criteria (local ownership, technical experience, public service broadcasting, diversity representation and the like) (Coase, 1959). The simpler view that the government should define and auction off permanent property rights in the spectrum to the highest bidder is treated as a genteel anachronism beloved only by sentimental market economists. In the well-known phrase of Justice Felix Frankfurter, the purpose of the state (here in the context of broadcast licenses) is to determine not only the rules of the road but also the composition of the traffic. No one who has looked closely at this result thinks that it has succeeded in

creating the ideal mix. Similar critiques can be made of modern labor and zoning law, which follow the same administrative program. Frequently, the delegation of key decisions to administrative boards props up state cartels and monopolies, often with deleterious economic effects.

The Classical Synthesis

This account of the government role gets it exactly backwards. The initial structural decisions of the founders of the American Constitution—pardon the parochialism—contained a far shrewder judgment about the strengths and weaknesses of the human condition than this modern fascination with the rise of the administrative state. That view accepted the necessity of conferring discretion on someone to make decisions about the future, but differed from the modern view in its identification of concentrated and discretionary state power as the chief dangers to social order. Quite simply, the classical thinkers had little doubt that ordinary individuals could make decisions that advanced their own self-interest even in complex social situations. What concerned them was the willingness of ordinary people to put themselves, their families, and their close friends first, so that they would be largely indifferent to the welfare of outsiders. The great challenge of political governance was to make political structures resistant to the dangers of self-interest, while leaving them sufficient power to be able to respond both to the life and death crises that faced a nation and to the mundane business of public administration. Taking their cue from James Madison’s sage observation that “enlightened statesmen may not always be at the helm” (Madison, 1788), they had to worry about “who guards the guardians?” and to create institutions that could withstand abuse in bad times just as they promote effective governance in good times.

In this setting, the grand objective is *not* to minimize the level of complexity in government structure. A chief feature of the American Constitution (many of whose elements have been copied elsewhere with indifferent success) is the fragmentation of power that consciously reduces short-term efficiency in order to counteract the corrupt motivations of political actors. Four major techniques were used to fragment power (Currie, 1985). First, the separation of powers between the different branches of

government—legislative, executive and judicial—meant that no individual or coterie controlled all functions of government. Second, the separation of powers ushered in a system of checks and balances, which includes presidential vetoes and congressional overrides, judicial review of legislation, and impeachment of executive and judicial officers. Third, the American Constitution is laced with elaborate electoral rules designed to slow down the election of public officials. Originally, the Electoral College was organized as a *deliberative* body that limited the influence of the electorate in choosing its President; and senators were chosen by state legislatures, not direct elections, until the passage of the Seventeenth Amendment in 1913. The more indirect the process, the harder it is for any one cabal to seize the reins of power. Finally, the system of federalism, with enumerated powers in the Congress and reserved powers in the states, was in its inception designed to divide power among rival and coordinate sovereigns, so that no single group could hold all the keys to the kingdom. The creation of independent agencies that blend legislative, executive and judicial functions was not part of the original plan. Rather, it was only read into our Constitution during the transformative period of the New Deal when the basic fears of government power gave way to the perception that expertise trumped self-interest in maintaining the overall system.

THE PRIVATE LAW

Any resistance to the concentration of power in government hands requires limited discretion in public officials coupled with a broader scope of action for private decisionmakers. Here, of course, it would not do to reduce the size of the state to zero because then nothing could be done to restrain the worst excesses of ordinary people, save by transient private alliances that would fail under their own weight. A good substantive law, therefore, seeks to create a clear framework for private decisions that in turn reduces the calculations that private actors need to make. No legal rule can eliminate the natural uncertainty attributable to floods or external aggression. But it can control against much man-made uncertainty that comes from an indefinite system of private rights and duties. In many ways, the classical private law rules of both common and civil law countries (more the former, as it turns out) did a powerful job in achieving the

optimal set of legal rules, from which more modern rules have, as a rough generalization, tended to stray.

Salient Characteristics of Sound Legal Rules

This short paper cannot outline in systematic fashion the full set of rules that is needed to take individuals out of the state of nature and into the modern state. Suffice it to say for these purposes that these rules include governance for the acquisition, transfer and protection of property, including (as it were) property in one's own labor. They must also provide for ways for state officials to obtain the needed resources to operate this system. Let me address three types of approaches that offer some simple and effective solutions to these challenges: rules that establish clear temporal priority; rules that judge behavior by outputs, not inputs; and rules that prorate the benefits and costs of various joint and collective decisions. Since these rules operate in part as beneficial heuristics, it is important to indicate the settings in which they break down as well as those in which they function well.

Temporal priority

One fundamental concern for any legal system is to match specific persons with specific resources: my house, your field. The traditional common and civil law approach to this question follows the maxim "prior in time is higher in right." Several observations are pertinent about this approach.

First, this rule works as an ordinal and not a cardinal measure. In any race to obtain a given resource, the only question is who gets there first. The margin of the victory is utterly immaterial to the outcome. These rules are similar to those which have been well honed in athletic competitions. The gold medal goes to the competitor who finishes first; the margin of victory is utterly immaterial. The source of the analogy is potent. Private organizations have the right incentives to find optimal rules because they internalize the gains and losses of their collective decisions. When a legal system uses similar rules to adjudicate claims among strangers, the presumption is that they are on the right track. Independent argument supports the same result. The reason for this tough all-

or-nothing rule lies in its ability to avoid the incredible complexity of the alternative approach. Once the margin of victory counts, two additional tasks have to be accomplished. Someone has to give a precise measure of the margin of victory, which may be possible in a race, but is not possible in an unstructured encounter where many people are seeking the same resource. In addition, someone has to develop an appropriate sharing rule that indicates what margin of victory entitles the winner to what fraction of the whole. Any such scale is arbitrary, and no single scale will be suitable for all different arenas.

Second, this rule is robust across multiple individuals because the rule is explicitly comparative. It says that *higher* in time is *prior* in right. It does not say that *first* in time is *highest* in right. That difference is critical in those cases in which more than two individuals are in competition for any particular resource. Thus, with respect to the acquisition of land or other property, it sometimes happens, especially in turbulent times, that A owns property which is taken from him by B, which in turn is taken from B by C. If the only rule were that first in time were higher in right, the legal system could not deal with any conflicts between B and C, or any subsequent possessor. But the strict ordinality of this rule is complemented by the principle of *relative* title. If A is out of the picture, then B will prevail over C. If B is out of the picture, then A will prevail over C. Further extensions and expansions are possible so that the rule is robust over a broad range of cases. It bears little demonstration that if any system of apportionment founders in setting fractions in conflicts between two persons, then it surely founders when three or more people are in competition for the same resource.

Third, this system of priority is of great importance not just for the acquisition of property rights in unowned objects. It is also useful in setting the priorities among various creditors of a single debtor (Baird, 2001). Thus, suppose that A owns property worth \$1,000, and B, C, and D take out successive mortgages on the property for \$500, \$300 and \$100. If the asset retains its value, each of these individuals can collect their debt in full no matter what the sharing rule with respect to the proceeds from the sale of the asset. But if the asset in question falls in value to under \$900, the value of the collateral is less than the outstanding value of the debts, and some *priority* rule has to be established. Here

again the absolute priority rule is universally adopted among secured creditors, such that B gets his \$500 before C gets his \$300, and C gets his \$300 before D gets his \$100. The hard rule is made clear in advance, so that individuals can adjust the level of interest charged to take into account the relative riskiness of their loans. In addition, the clarity of the priority rule makes it easier to determine the price at which these loans can be sold or pooled, an exit option for the original lender which increases the willingness to extend credit in the first instance.

Fourth, the absolute priority rule is capable of reinforcement by sensible legislative interventions. One serious question with the sequential creation of property interests is how to establish these priorities. The universal answer is the creation of a single state system of recordation for claims, which is enforced by a draconian rule that excludes (except in some rare cases) any individual who does not give notice to the world of the priority of his claim. Recordation is a simple procedure by which claimants can give a simple description of their claim and the plot of land to which it attaches. All other individuals are charged with notice of what is in the system, much the way in which students are charged with knowing any assignment that is posted on the bulletin board. This system means that the prior-in-time rule no longer applies to the acquisition of property, but to its recordation. Some individuals might argue that this means that the state has taken property from those who prevail under the ordinary private law rule but lose under the statutory scheme. The answer is that even if they lost the property *ex post*, they gained full compensation for that loss *ex ante* under a set of rules that improved the security of transactions for all players, regardless of when they arrived at the scene. And any danger of monopoly power is offset by a rule of open and universal access to the public registry, which allows private intermediaries to gather and reconfigure the information in ways that facilitate the creation of a competitive market.

Fifth, the system of priority can be applied to various forms of intellectual property that cannot be reduced to ordinary possession, such as patents, copyrights, trade names, and trade marks (Landes, 2003). Here again, the rule of prior in time is higher in right has led to some momentous patent races in which one inventor (e.g., Alexander Graham Bell and the telephone) wins out over a rival by a hair and keeps the full set of

patent rights. The European system follows this rule rigorously, but the American law of patents does not, and allows for the displacement of the first to file if the second inventor can show that he had the appropriate conception first and diligently struggled to bring it to market. Here is a case in which the adoption of a complex rule is just asking for trouble. The ostensible rationale of the rule is to allow small inventors a fair shot against their more well-heeled rivals. The actual effect is to introduce a gratuitous measure of uncertainty that often allows large inventors (or the corporations for whom they work) to use this set of neutral rules against the smaller inventors whom the rule was intended to protect. This additional measure of complexity has the exact opposite effect of the recordation rules. It introduces a new measure of complexity that increases uncertainty and works to the ex ante disadvantage of everyone.

Sixth, this system of strict temporal priorities sometimes breaks down. Here the critical condition is this: the ordinal rule works well when the cardinal gaps tend to be large. If the question is the slow expansion of the frontier, settlers will come at large intervals. Each will tend to limit the amount of land that he claims to defensible borders, so the system will tend to fill in naturally, as it were. But in some cases, the parties do race, as with the Oklahoma “Sooners.” In this case, the United States set the ground rules such that all homesteaders gathered at the border, which they were allowed to cross only at 12:01 AM on the appointed day. The net effect was that many claimants jumped the line “sooner” than they should have, creating mass chaos. The same situation could apply today if one sought to occupy the broadcast spectrum by a first possession rule, which in fact had some brief success in the early days of radio in the 1920s in the United States before it was overturned by statutory rule (Hazlett, 1990). But today any unallocated portion of the spectrum could be occupied in milliseconds under a first-in-time rule. So the system has to shift. One response is the comparative hearing that requires each applicant to inflate its virtue. A better choice is to sell off predetermined frequencies by auction, which people could then use as they choose. Here the system will favor those with the highest use value, which the bid alone is sufficient to communicate, without the release of valuable trade secrets, and without the risk of government favoritism in making allocations. Once acquired, the frequencies could then be freely alienated after acquisition, and their use patterns could change with new technology, just as land that

once was used for farming becomes with urbanization the site of a factory. The breakdown of the system in specified consequences makes it absolutely critical to know what the right fallback position is.

Judge Outputs, Not Inputs

A second guideline is to determine liability based on outputs, not inputs. Once again, sports provide a useful analogy. Whether a ball is in-bounds or out-of-bounds depends on where it lands, not on how well it has been hit. Whether a goal or touchdown is scored likewise depends on whether the ball has crossed the line, not on whether the offensive player has used reasonable efforts to score. Luck, therefore, has a place in all competitions, even if it does not always even out in the end.

Torts. This approach carries over to disputes over bodily injury and property damage (Epstein, 1999). The body of law that polices disputes between strangers (who meet randomly) and neighbors (who stand in fixed permanent relationship to each other) is triggered in the first instance by *entry* into the protected space of another person. A defendant could hit the plaintiff or walk onto his land. The defendant could damage the property of another by throwing rocks or emitting fumes across the boundary line. In highway accidents, a defendant could enter an intersection in violation of the rules of the road. In all cases, the illicit boundary crossing is necessary to establish the basic case of liability. The dilemma is whether the law should also look to the inputs generated by the defendant, chiefly the level of care taken to avoid the initial invasion of the plaintiff's space. For example, a court could ask whether drivers tried to comply with the rules of the road, or were impaired by epilepsy or drowsiness from behaving correctly. In all these contexts, the best and simplest response is a "strict liability" approach, which keys the determination of the plaintiff's case to the consequences of the defendant's action. The intentions of the defendant and the level of care taken to avoid the harm are no more relevant than in athletic competitions.¹ What one has done, not what was intended or might have happened, should be all that matters.

¹I put aside the complications that arise when punitive damages are sought for flagrant harms, which are much like those actions that are flagrant fouls, e.g., red cards, which often call for expulsion from the contest.

Here is why it is best to ignore the varied elements of moral responsibility. First, the strict liability system is much cheaper to operate than one that seeks to investigate levels of care. Any decision on liability versus no liability necessarily raises an on/off question, unlike the question of damages for harm caused, which varies continuously with the extent of the loss. As a matter of decision theory, any on/off determination is best linked to an on/off switch, rather than to some continuous variable, such as care level. Any variables on care level (e.g., what do particular precautions cost, how effective are they likely to be) are difficult to estimate after the fact because they involve a heavy reliance on unobservable alternatives with indefinite costs and benefits. Hindsight bias is an obvious problem given the tendency of fact finders to overweigh the events that did occur relative to the ones that did not. Using a rule that makes public decisions more reliable allows private parties to make their own private judgments as to whether certain precautions are worth taking or not. There is, moreover, no reason to think that this strict rule of liability has inferior incentive effects to those rules that ask fact finders to calculate the optimal level of care, notwithstanding all the risks of hindsight bias. Even if both rules were perfectly administered, the defendants would take exactly the same level of care, eschewing all but cost-justified precautions.

Second, the strict liability rule could be applied in all cases, regardless of the causal mechanism. There has been a regrettable tendency in the law to adopt different standards of liability in different kinds of cases. Thus at one time, it was thought that a strict liability rule should apply to particulate damage, such as that caused by throwing debris on the land of another, but a negligence rule should apply to damages caused by concussion, without debris. Today, it is common to apply the rule of strict liability solely to activities that are denominated “ultrahazardous or abnormally dangerous”—fumigation, oil drilling, blasting, etc.—but not to ordinary automobile accidents. A similar distinction applies a strict liability rule to damages caused by dangerous, but not tame, animals. But in none of these settings is it explained why the ex ante difference in probability (which is relevant to the question of whether injunctive relief should be supplied) should matter once the harm has come to pass. All distinctions are costly to police. These refinements thus violate one basic principle of simplicity that holds: only

introduce a distinction between related cases where it is likely to offer some system-wide improvement on private incentives to take care, which is not at issue here.

It is important to note some limitations to the rule. The first (as with the prior-in-time rule) depends on the frequency and distribution of boundary crossing events. Between neighbors, the harms in question often involve high-frequency, low-level interactions. In these cases, the so-called live-and-let-live rule adopts an automatic set-off mechanism whereby neither party can sue the other for any harms comprehended by the rule (voices, kitchen smells, background noises) on the grounds that both parties—a classic Pareto improvement—gain more with their additional freedom of action than they suffer by their loss of seclusion. These low-level interference rules also apply to spectrum interference, under the same rationale of mutual benefit from state-imposed deviation of the no boundary crossing rule.

Second, the noninvasion rule is always subject to variation by a private land use plan, often designed and imposed by a single developer, which alters (usually increases, say by esthetic requirements) the burdens imposed on individual landowners. The subdivision program helps to correct any initial mistakes in the resolution of boundary disputes generated by the off-the-rack rules supplied by the legal system. But the variations found in these alternative rules, and the private governance structure needed to enforce them, make it impossible to incorporate them as background government norms.

Third, the strict liability rule need not apply to harms that arise in consensual settings, such as the liability of a physician to a patient, the landlord to a tenant, or the employer to an employee. But frequently some other on/off switch is available. Thus, for example, the occupier of premises could be liable in the event that the premise hazard was latent, but not patent. Therefore, slip-and-fall cases generally come out for the plaintiff if a spilt liquid is the same color as the tile floor; and, more likely, the other way if it is not. The source of the distinction is that the first case involves a *trap* while the second warns the customer or tenant of the danger. In addition, the huge expansion in product liability cases comes from the rule that obvious defects expose defendants to liability even when the injured party has the option to withdraw, say, from the use of

machine tools. Once the open-and-obvious rule is set aside, the only backstop is the same kind of elaborate cost/benefit analysis used in negligence cases involving strangers, and subject to the same sorts of objections on cost and reliability.

Fourth, in some areas, like medical malpractice, the default norm cannot turn on physical invasion, which is what surgeons are supposed to do. A distinction between latent and patent defects also does not matter with unconscious patients. Instead, (if no contract is applicable) the correct approach usually involves an appeal to medical *custom*, which sets as bright of a line rule as is possible under the circumstances. Here multiple customs may compete with each other, and customs may change over time, but in general the physician whose care level conforms to any customary standard is able to beat back liability that would otherwise be imposed under some generalized cost/benefit standard. No matter what rules are involved, these medical cases are always more difficult to solve than routine accident cases. It is no accident that the rejection of customary standards in product liability design defect cases has fueled much of the expansion in product liability litigation.

Contract. A similar analysis could apply to the analysis of contractual liability. Here the overarching principle is that the parties themselves should set the terms of their engagement, so that one central function of the law is to supply a set of *default* terms that will economize on transaction costs when certain unwanted contingencies occur (Epstein, 1984). Usually, when parties enter into contracts they adopt simple rules to determine the outcome of their disputes. One implication of this position is that the performance of contractual duties is generally strict, so that parties cannot argue that they should be excused from liability so long as they used reasonable efforts to discharge their obligations. Yet owing to the variety of situations, the clear rule sometimes confers an unqualified option to withdraw from an arrangement, for either or both sides. For example, the typical employment contract calls for a contract at will, where either side can terminate for good reason, bad reason, or no reason at all, subject only to accrued obligations, such as past wages or commissions or liability for work-related injuries. This rule means that two persons do not have to continue in business when they no longer trust each other. It also means that no court has to decide whether the withdrawal from the

agreement was done “for cause,” another multi-factored inquiry that increases administrative expense and erodes predictability. Under these agreements, the persistent threat that each side has to pull out offers an implicit, but effective, threat against the advantage-taking of the other side to the arrangement. Thus, these arrangements often prove durable for years even though they can be terminated in the twinkling of an eye.

Under this competitive arrangement, employers are not likely to fire employees without cause no matter what the legal requirements. Any decision to remove workers will be observed by other workers who will leave voluntarily on their own terms if they think that an employer is capricious. In any case, employers have to incur substantial costs to recruit and train new workers, who themselves might not work out. The entire at will arrangement is as durable as it is simple even though it makes no reference to the optimization of overall firm or social utility. And where it does not suit the situation, the parties can under the principle of freedom of contract craft terms that better suit their situations. Yet even here, simple rules often work well: fixed terms of service, and severance pay of a stipulated amount are common examples.

One of the great mistakes of modern regulatory law is to attack the contract at will on a variety of grounds. Many common law courts believe that they can decide which dismissals are “unjust” and which not, and thus plunge the area into uncertainty and induce a civil-service-like inefficiency when disruptive workers cannot be displaced. Often workers are given statutory protection along similar lines. Sometimes employers are placed under a duty to bargain with unions that are chosen to represent all workers, often including those who dissent from their representation. In many cases, antidiscrimination laws introduce shadowy requirements of motive or disparate impact in ways that limit the ability to hire and fire (but never to refuse or quit). These laws have generated a vast amount of litigation, which has done little, if anything, to improve the overall situation even for workers in the protected class, in part because of the hidden traps in using shaky statistical evidence to prove discrimination (Heckman, 1998). The net effect in all cases is to slow down the mobility of labor, and thus to undercut the most effective self-help remedy of workers and firms alike, which is to look elsewhere when things are bad.

Proration

The last of the simple rules that influence many areas of law is the requirement of proration of costs and benefits among individuals in similar situations. Here the basic rule has its origins in the law of partnership, whose fundamental default provisions run as follows. First, unless otherwise specified, each partner owns the same fractional share of the business, both for benefits and losses. Second, in the event that benefits (or burdens) are allocated explicitly on a non-pro rata basis, then burdens (or benefits) are allocated by that same share, unless otherwise agreed. The virtues of this simple rule are manifold. First, it helps with morale inside the business by its obvious appeal to a sense of fairness. Second, it reduces the incentives to manipulate various outcomes. Thus, if an outside offer comes to the firm, as a first approximation, any partner will accept it if his expected benefits are greater than his expected costs. So long as all partners are prorated in their interests, this self-interested calculation will lead to outcomes that similarly benefit other members of the firm as well. Of course, this simple rule has to be qualified when the efforts of individual partners vary by activity and task, which is one reason why these firms tend to remain small in light of monitoring problems. But the entire principle of proration has a new life in the creation of various kinds of investment vehicles where the shareholders of the firm contribute only cash, and not labor, so that it is far easier to prorate the profits over the firm in accordance with investments. The elimination of the uncertainty over the division of spoils increases the alienability of shares (which again increases the willingness to invest), and reduces the level of tension on whether to declare dividends or retain earnings within the firm. But in this situation, the separation of ownership from management creates problems of trust that are not dissimilar to those which are found in governments. It is, therefore, no accident that the devices one sees in a constitutional setting are found in large voluntary organizations as well, most notably, some effort to separate the executive functions from the overall governance functions of the board of directors. But these parallels are not precise because the exit option (sell shares) is far more potent with corporations than with politics, where greater efforts must be made to secure voice and protection for individual citizens.

The success of this pro rata rule in joint ventures carries over to other areas that are only weakly consensual. Previously, I noted that the absolute priority rule applied to cases of *secured* debt. But the priority rule for general creditors is that they share in the assets of the debtor to the extent of their indebtedness (Baird, 2001). Unsecured debt is extended and modified in countless different ways. The absence of any clear record of priorities makes it foolhardy to seek to decide which creditor takes priority over the others. The key issue in these cases is often to preserve the “going concern” value of the business, so that bankruptcy codes typically contain provisions that prevent a hard-pressed debtor from paying off one creditor in preference to others in ways that would result in the destruction of the overall business. A similar use of proration devices also applies to water rights in riparian systems, in contrast with the absolute priority rule in connection with land. Riparian rights are those which permit an adjacent landowner (“the riparian”) to divert some water from a flowing stream for domestic or farming use associated with its own parcel. The amount of water that can be taken from the stream often must be limited lest it be milked dry. It is typically difficult to determine which landowner came to the river’s edge first; and it is unwise to encourage the rapid occupation of land by using that as the badge to create rights in water. Therefore, each riparian is treated as a general creditor, entitled to a pro rata share (measured by the amount of his interest) in the water in question. That rule will not apply in prior appropriation states where the prior-in-time rule tends to apply, precisely because in stream uses are of little or no value. But in the riparian context, the pro rata rule sets the framework that allows for the allocation of a common resource among multiple holders who have no independent connection. No system of voluntary negotiation could reach this result given the transactional obstacles.

The durability of these proration rules is evident as well in their key role in constitutional adjudication. Quite frequently, the government imposes comprehensive regulations over the use of land or the ability to speak. One question is whether these regulations constitute a taking of private property, or an infringement of freedom of speech (Epstein, 1985). One test of the legitimacy of these regulations is the question of whether they subject individuals to prorated forms liability. It is, for example, no accident that the defenders of classical liberalism (of which I count myself as one) are drawn in

general to systems of proportionate taxation, often on the explicit ground that citizens should be treated the same, as partners involved in common ventures (Smith, 1776, at 777; Hayek, 1960, at 314). This view of the world rejects the more extreme libertarian views that equate taxation to either theft or forced labor (Nozick, 1974). It also has the twin virtues of allowing the state to reach whatever revenue targets it deems appropriate, while reducing the political pressures that each faction has to impose disproportionate liability on other groups while nabbing, if possible, a disproportionate share of the gains for itself. That test will run into difficulty where there is a strong social pressure for redistribution of wealth. However, it remains, at least in the United States, a strong constraint with respect to taxes in specialized areas, such as the press, which receive higher scrutiny, where, for example, progressive taxation on newspaper revenue has been struck down as a limitation on freedom of speech.

The same argument applies in many other areas as well. The limitations on new construction that are imposed by a zoning law are far more likely to represent sound social policy if all the affected landowners are bound in equal proportions. At times, the United States Supreme Court has treated the disproportionate impact test as the sign of unjust confiscation from one group to another. But in its willingness to allow states to transfer wealth across parties, it adopts a “pragmatic” approach that involves the same multi-factored method that wreaks such havoc in other areas. The effort to invite scientific precision turns out to be an open invitation to factional politics.

CONCLUSION

This quick Cook’s tour of the logical structure of legal rules is done in order to make this general observation. There is a sharp parallel between the logic of individual decision-making and the logic of collective action. In both cases, there is a desire to achieve some global objective of utility maximization. But the formal tools of analysis to achieve that end break down in both areas. In ordinary life, people tend to resort to convenient heuristics and rules of thumb to make decisions that produce sound results in most cases, even if shipwrecks in others. In the law, the earlier writers uniformly adhered

to some “natural law” rules that embodied these presumptions in simple rules that do a better job of achieving utilitarian ends than the self-conscious modern utilitarian methods.

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REFERENCES

- Baird, D., T. Jackson, and B. Adler. 2001. *Cases, Problems, and Materials on Bankruptcy*. 3rd Ed. New York: Foundation Press.
- Currie, D. 1985. *The Constitution in the Supreme Court: The First Hundred Years, 1789-1888*. Chicago: The University of Chicago Press.
- Coase, R. 1959. The Federal Communications Commission. *Journal of Law and Economics* 2: 1–40.
- Coase, R. 1960. The Problem of Social Cost. *Journal of Law and Economics* 3: 1–44.
- Epstein, R. 1973. Pleadings and Presumptions. *University of Chicago Law Review* 40: 556–582.
- Epstein, R. 1984. In Defense of the Contract at Will. *University of Chicago Law Review* 51: 947–982.
- Epstein, R. 1995. *Simple Rules for a Complex World*. Cambridge (MA): Harvard University Press.
- Epstein, R. 1985. *Takings: Private Property and the Power of Eminent Domain*. Cambridge (MA): Harvard University Press.
- Epstein, R. 1999. *Torts*. New York: Aspen.
- Epstein, R. 2003. *Skepticism and Freedom: A Modern Case for Classical Liberalism*. Chicago: University of Chicago Press.
- Gigerenzer, G., P. Todd, and the ABC Research Group. 1999. *Simple Heuristics That Make Us Smart*. New York: Oxford University Press.
- Hart, H. 1961. *The Concept of Law*. Oxford: Clarendon Press.
- Hayek, F. 1960. *The Constitution of Liberty*. Chicago: University of Chicago Press.

- Hazlett, T. 1990. The Rationality of U.S. Regulation of the Broadcast Spectrum. *Journal of Law and Economics* 33: 133–75.
- Heckman, J. 1998. Detecting Discrimination. *The Journal of Economic Perspectives* 12: 101–116
- Hobbes, T. 1651. (1962). *Leviathan*. Ed. M. Oakeshott. New York: Collier Books.
- Hume, D. 1739. (1888). *A Treatise of Human Nature*. Ed. L.A. Selby-Bigge. Oxford: Clarendon Press.
- Kahneman, D., P. Slovic, and A. Tversky, Eds. 1982. *Judgment under Uncertainty: Heuristics and Biases*. New York: Cambridge University Press.
- Locke, J. 1690. (1980). *Second Treatise of Government*. Ed. C.B. Macpherson. Indianapolis: Hackett Publishing.
- Landes W. and R. Posner. 2003. *The Economic Structure of Intellectual Property Law*. Cambridge (MA): Belknap Press.
- Madison, J., A. Hamilton, and J. Jay. 1788. (1961). *The Federalist Papers*. New York: New American Library.
- Nozick, R. 1974. *Anarchy, State, and Utopia*. New York: Basic Books.
- Posner, R. 2003. *Economic Analysis of Law*. 6th Ed. New York: Aspen.
- Smith, A. 1776. (1937). *The Wealth of Nations*. New York: Modern Library.
- Stewart, R. 1975. The Reformation of American Administrative Law. *Harvard Law Review* 88: 1669–1813.
- Tversky, A., and D. Kahneman. 1974. Judgment under Uncertainty: Heuristics and Biases. *Science* 185: 1124–1131.

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