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A Coordination Account of Legal Order

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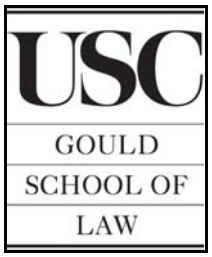
USC Center in Law, Economics and Organization
Research Paper No. C11-4
USC Legal Studies Research Paper No. 11-9



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Collective Punishment: A Coordination Account of Legal Order

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March 2011

Abstract

Although most economic and positive political theory presumes the existence of an effective legal regime (protecting property rights or implementing legislative or judicial choices, for example), behavioral social science has devoted little systematic attention to the question of what constitutes distinctively legal order. Most social scientists take for granted that law is defined by the presence of a centralized authority capable of exacting coercive penalties for violations of legal rules. This unexamined presumption, however, leaves us with few tools in social science to answer key questions about the emergence and maintenance of legal order. A focus on centralized coercion fails to distinguish between spontaneous social order based on social norms and deliberate order structured by organized efforts to create and enforce rules in the absence of centralized coercion. In this paper we discuss several settings in which centralized coercive force is absent and yet social order relies on distinctively legal attributes and institutions. Drawing on a model developed in Hadfield & Weingast (2011), we use these settings to show how distinctively legal attributes and institutions work to coordinate decentralized collective punishment. We focus in particular on how legal institutions reduce ambiguity and solve incentive problems to support a decentralized equilibrium characterized by compliance with deliberately chosen rules. We thus sketch out how a social scientific account of law can help distinguish social norms from legal rules and identify the institutions that support legal order in a wide range of settings that do not presume the existence of centralized coercion.

Law has long played a central role in economics and political science. Markets presume a strong system of private property rights; principal agent models presume contract enforcement. Formal models of politics typically presume the power to enact policies into law. But few in social science, apart from cultural anthropologists (Hoebel [1954] 2006, Falk Moore 1973) have devoted sustained attention to the question of what law *is*. (Kornhauser 2004 is a rare exception writing in the law and economics tradition.) Law has, by and large, been modeled by economists as an economic variable: a price on behavior. Law for positive political theorists has mostly been a political variable: the result of political choices. This approach has failed to provide insight into how law differs from prices or politics. Indeed, social science has failed to explain the phenomenon of law; it has taken the attributes of distinctively legal order for granted.

Without an account of law as an economic, social and political phenomenon, however, we have few tools to explain the emergence of law in human history. Human beings invented law, but how are we to tell when societies have progressed from an informal social order or order based on dominance to the "rule of law," a distinctively "legal" order? What do we mean by "rule of law" or a "legal" order? Nor can we, lacking a social scientific theory of law, adequately predict how legal institutions will respond to their environment or develop policies for how they can be improved. A major problem with previous social science arguments is that they reify specific forms of legal institutions; in particular, they nearly all adopt the implicit and therefore unexamined assumption that law involves coercive enforcement by a centralized authority such as the state.

In this paper, we look at a series of settings where law plays a significant role in generating social order and yet coercive centralized enforcement is either weak or absent. These settings allow us to make out our first claim: current models of law in economics and political science, because of their focus on coercive enforcement, provide few tools for analyzing what is clearly legal order in these settings. Drawing on a formal model we have put forth (Hadfield & Weingast 2011), we then present an alternative starting point for a social scientific theory of law, the idea that law plays a fundamental role in coordinating collective punishment. This links the study of legal order to a topic that has received substantial attention from anthropologists, behavioral economists and evolutionary theorists: third-party punishment to support cooperative or egalitarian social norms. (See, e.g., Boyd & Richerson 1992, Boehm 1993, Fehr & Fischbacher 2004, Henrich et al 2006, Fehr 2002, Boyd, Gintis & Bowles 2010.)
Our second major claim is that this starting point allows us to understand a wide variety of settings in which organized centralized coercive enforcement is absent and yet distinctive markers of legal order are present. Our perspective also provides a better understanding of legal order in developed societies; and helps up to anticipate better the development of legal order in settings—such as poor, developing or transition economies and the globalizing economy—in which centralized coercive authority is weak or absent.

Law without Coercion

As Dixit (2006, 3) observes, "conventional economic theory . . . takes the existence of a well-functioning institution of state law for granted. It assumes that the

state has a monopoly over the use of coercion . . . .” This assumption is made whenever we model property transfers in markets or analyze the incentives and welfare effects generated by instruments such as contracts, taxes or regulations. Social scientists conventionally presume that the absence of state coercion implies “lawlessness” or, more precisely, reliance on alternative non-legal methods of achieving economic governance and social order. Distinguishing law from social norms Ellickson (1992, 127), for example, defines law as rules that are enforced by governments rather than social forces.

The assumption that a legal order is, by definition, characterized by centralized coercive force to impose penalties for rule violations is natural when we are interested in analyzing central topics in economics, such as optimal tax policy or the design of contractual mechanisms to induce an agent or partner to exert efficient levels of effort or reveal private information. But identifying a legal order with a centralized, coercive authority leaves us with few tools with which to systematically analyze either the emergence or the construction of legal order as an economic or political phenomenon. We are unable, for example, to distinguish between spontaneous or emergent social norms—which generate the orderly environments found in many hunter-gather societies for example (Wiessner 2005)—and deliberately crafted rules adopted and modified through discursive or analytical mechanisms and voting procedures, if both are enforced by similar mechanisms of shame, gossip, voluntary compliance, reputation, and so on. Coercion may well be necessary as a practical matter in many legal systems but unless we have a way of understanding other ways in which law generates social order, we cannot analyze the question of when, where and how coercion is needed.

We present here a series of scenarios in which centralized coercive enforcement is absent and yet social order is clearly dependent on formalized legal structures. These scenarios serve two purposes. First, they demonstrate the existence of settings where we can speak meaningfully of legal order without coercive centralized enforcement. Second, they provide a testing ground for the explanatory power of our coordination account of the characteristics of legal order (Hadfield & Weingast 2011).

Tenth-Century Iceland. Medieval Iceland was a bloody place (Bryce 1901, 263, 270). But the age of blood feuds was also an age of extensive and complex laws and litigation. Shortly following settlement by the Vikings, the first general assembly, known as the Althing, was held in 930 at Law Rock. Here, freemen assembled every year to vote on rules and, more importantly, hear lawsuits "argued with an elaborate formality and a minute adherence to technical rules far more strict than is now practised anywhere in Europe" (274).

The Icelandic system bore two distinctive features that set it apart from our conventional understanding of law. First it had no centralized authority to enforce its rules. Again according to Bryce,

> There was no police, no militia, no fleet, no army. . . Such State organizations as existed came into being for the sake of deciding lawsuits. There it ended. When the decision had been given, the action of the Republic stopped. To carry it out was left to a successful plaintiff; and the only effect a decision had, so far as the Courts were concerned, was to expose the person resisting it to the penalties of outlawry—that is to say, any one might slay him, like Cain, without incurring in respect of his death any liability on the footing of which his relatives could sue the slayer. (281)

Second, the Icelandic system contained only one public official, an expert on the law called the "Law Speaker" elected for a three-year term (276). His sole duties were to memorize and recite at the Althing the entirety of the law, composed of customs and

legislated rules, to answer any queries from potential litigants about the law, and to serve as the only person able to declare with finality the content of the rules in the event of uncertainty in a court proceeding.

Buddhist Tibet pre-1959. Prior the arrival of Mao's army in Tibet in 1950, law in this Buddhist country took a form that seems both familiar and deeply strange to modern Western legal eyes. When the Fifth Dalai Lama was put in charge of the country in 1642, he and his regents prepared a detailed law code that "cover[ed] an enormous number of subjects" (French 1995, 46) and remained largely unchanged for 300 years. But the implementation of the code was characterized by low degrees of coercion. Parties in dispute could simultaneously pursue multiple options for resolution. They could participate in internal dispute settlements including "discussions within families or between relatives, singing contests among the nomads, rolling dice, champion-style fights, negotiations, and consultation conferences with important people" (121). They could seek "private, unofficial, and nongovernmental" resolution by a conciliator or middleman. Tibetans could also take their dispute to a judge at home (123). Finally, there were formal proceedings, which took the case into the "public, official, governmental sphere" (123).

The most striking feature of Tibetan formal procedure, from the perspective of Western legal systems, is that, the consent of *both* the petitioner and the opponent was required. "A civil suit could not be addressed in most forums without the consent of both parties. A case was not considered settled until there was agreement as to the facts, and a judicial decision (even in a murder case) had a subsequent requirement of consensus among all parties (138). The requirement of consent to even an official

judicial determination of a case meant that Tibet had no analog to Western legal notions such as *stare decisis* or *res judicata*. "Even a decision agreed to by all parties could lose its finality at whatever moment the parties no longer agreed to it" (139).

The Medieval European Law Merchant. With the expansion of long-distance trade in Europe in the High Middle Ages came the challenge of securing the terms of commercial transactions (Milgrom, North & Weingast 1990, Greif 1989, Greif 1993, Greif 2006). Merchants and their agents traveled to fairs and markets throughout the continent to buy and sell goods. Various entities offered rules to resolve commercial disputes: religious bodies, community organizations, royal courts, and merchant guilds. In this period prior to the rise of organized nation states, however, none of these rule systems could reliably draw on a centralized force with authority to impose penalties for rule violations. The power of any particular set of rules therefore depended heavily on other enforcement mechanisms, including ostracism, reputation, the merchant guilds, and community enforcement systems (Greif 2006).

These rule systems showed great range and differentiation. In one community, for example, a contract might be sealed and deemed effective based only on the handing over of a "God's penny" (as in Edward I's *Carta Mercatoria* of 1303). But in other contexts such "earnest money" did not bind; validity of the contract required the uttering of particular words or written documents. Rule systems also tended to overlap and compete, with no organized method for allocating jurisdiction. Indeed, the merchants who during this time developed the Law Merchant—the special body of "rules and legal doctrines for mercantile transactions (Mitchell1904, 9)—struggled to ensure that their disputes would be heard under a particular set of rules. The guilds of

Northern Italy, for example, initially obliged their members to bring disputes to the guild court rather than the ordinary civil court (42-43) and gradually extended their jurisdiction over all mercantile cases within the city (41, 43-45). Although the process was slow—a 14th century treatise "declared that no one could know or ascertain the procedure of the Law Merchant" (7) in English fairs and towns—over time, differences among rules systems abated and a more uniform set of rules emerged.

The California Gold Rush. "When gold was discovered on January 24, 1848, the territory [of California] had none of the usual legal institutions such as a legislature, courts, police or jails" (McDowell 2004, 772). Yet disputes over claims were generally rare, and surprisingly little violence arose, at least over the right to engage in the hard work of extracting gold from a digging (Umbeck 1981). Instead,

> a common or customary law of the diggings emerged that allowed a miner to hold a small claim for as long as he was working it or left his tools in his hole. When diggings looked promising, however, and likely to attract many miners, those who were on the spot held a meeting to pass a more detailed mining code for that particular area[,] … chos[ing] a chairman, appoint[ing] a committee to draft a code, and a short time later, approv[ing] it by majority vote (McDowell 2004, 778).

The substantive content of the codes "varied in detail from camp to camp, and they could be modified at a subsequent miners' meeting, in which case the rights of claim holders might change from one day to the next" (773). Despite the absence of a centralized enforcement authority, the rules set out in these codes were largely observed. Moreover, as argued by McDowell (2004) and evidenced by the flexibility of the substantive content of the rules, the rules were not merely reflections of underlying normative consensus about what constituted fair claim allocation; indeed "the variation in the rules from camp to camp suggests that property rules were adopted and cast off as readily as the rules of a game" (801).

When disputes arose between American miners, they were often referred to third parties including ad hoc arbitrators and juries of miners. “Almost all litigants complied with their decisions without further ado” (788). In the apparently rare cases in which they did not comply immediately, the community would announce clearly to the violator that they were to abandon the diggings or risk community punishment (800). In one episode at Shaw’s Flat in 1852, violators were told that “if they did not leave within the specified time the miners of Shaw’s Flat would carry them and their tools below Steven’s store and put them on foot, and if they returned again they would be deal with in a different way” (800).

The World Trade Organization. Fireblight is a bacterial infection that attacks apple orchards. It was discovered in New Zealand orchards in 1919 and, out of fear that its own orchards would become infected, Australia banned imports of apples from New Zealand in 1921. New Zealand pressed repeatedly for access to the Australian market, and in 2006 Australia released an Import Risk Analysis (IRA) setting out a list of requirements that had to be met in order for New Zealand apples to be imported into the country. New Zealand objected that these requirements effectively continued to shut New Zealand out of the market in Australia and took its case to the World Trade Organization in 2007, complaining that Australia was in violation of its obligations under the WTO. Article 2.2 of the Sanitary and Phytosanitary Agreement states that members of the WTO “shall ensure that any sanitary or phytosanitary measure is applied only to the extent necessary to protect human, animal or plant life or health, is based on scientific principles and is not maintained without sufficient scientific evidence.”

After 3 years of proceedings, with vigorously presented arguments from New Zealand, Australia and five third-party countries (Chile, the EU, Japan, Chinese Taipei and the U.S.) on a range of procedural and substantive issues and extensive factual evidence from scientific experts, a 3-person panel of the WTO released a 550 page report which concluded that Australia's requirements for importation of New Zealand apples were not supported by sufficient scientific evidence and thus violated Article 2.2. The Report concluded: "The Panel recommends that the Dispute Settlement Body [of the WTO] request Australia to bring the inconsistent measures. . .into conformity with its obligations under the SPS Agreement." Australia appealed to the WTO's Appellate Body which, in a 150 page report, affirmed the findings of the original Panel and reiterated that Australia should be "requested" to bring its measures regarding New Zealand apples into compliance. Australia accepted the report and began a science-based review of its restrictions to bring them into compliance.

This episode reflects the core attributes of international trade law, an essential framework for global trade. On the one hand, disputes are heard in proceedings that are largely indistinguishable from conventional legal proceedings, employing legal documents, reasoning and forms of evidence. On the other hand, the process contains no mechanism for coercive enforcement of its results: the consequences for failure to comply when "requested" arise from reputational impact or retaliatory measures "authorized" (but obviously always available even if "unauthorized") by the WTO (Guzman 2008).

Contracting in the New Economy. In many settings in the new economy—characterized by high rates of innovation, vertical disintegration, and global

collaboration (Audretsch 2007)—economic actors frequently use legal documents, seek out legal advice and employ legal reasoning despite the practical unavailability of formal state enforcement of penalties for legal violations. Many reasons account for the unavailability of formal enforcement. In a classic of economic analysis, Williamson (1975) argued that contracts are often unavoidably incomplete, for example, due to limits on the ability to anticipate, articulate or plan for future contingencies or the cost of presenting verifiable proof of contingencies.[1] For these and other reasons, Williamson (1985) further argued that courts face grave difficulties in enforcing complex contracts. Similarly, the globalization of production and distribution places many suppliers, collaborators, employees, consumers and users beyond the reach of any public enforcement agency.

Nonetheless, contracting parties frequently write legal documents to analyze and expound on legal obligations and legal strategies. Walmart enters into complex contracts with its Chinese suppliers, for example, imposing a panoply of obligations ranging from product quality, price and delivery to compliance with codes of conduct governing child labor and worker safety (Lin 2009). Few of these obligations can be effectively enforced through litigation: courts in China are perceived as weak. Similarly, the fast-moving collaboration between innovative firms such as search engine Yahoo and Firefox browser provider Mozilla is often heavily influenced by legal documents and reasoning. And yet such collaborators maintain the expectation that reputation and repeat business are far more likely to provide incentives to perform than threats of legal penalties.

[1] Lawyers have recognized the necessary incompleteness of contracts even longer. Macneil

What is Law? The Characteristics of Legal Order

The definition of what counts as "law" is inherently arbitrary; law is not a physical object. For the purposes of building a social scientific account of law, we are interested in a definition of law that generates a theory that has attractive properties in terms of distinguishing legal order from other forms of social order. Our claim is that the existing definition of law among economists and political scientists—that law is a set of rules generated and enforced by a state wielding coercive authority—is too narrow from this perspective. This definition excludes the scenarios described above as examples of legal order. In doing so, the definition lumps these highly organized and deliberate settings together with settings in which order is spontaneous and organic, as it is, for example, in small homogeneous settings governed by emergent social norms. But it seems highly unlikely that there are no systematic theoretical differences between organization based on emergent social norms and organization based on deliberately crafted rules and institutions. We expect, for example, that behavior during the California Gold Rush was different before and after the miners adopted a specific set of rules. Analyzing those differences, and explaining the likelihood that a transition from emergent social norms to rules will take place is, we claim, a central task for a social scientific account of law.

Hadfield & Weingast (2011) builds a definition of law by starting with the premise that a distinguishing feature of law is that, unlike emergent social norms, legal rules are an object of deliberate choice. We can therefore distinguish in a legal order between the rules (even if they are complex and hard to articulate standards such as "reasonable

care") and the behavior and outcomes that result from the presence of such rules. That is, people may ignore a legal rule, and it may have no effect on behavior or expectations, but we can still speak intelligibly about the existence of the rule. This gives us a potential gap between "law on the books" and "law in action" (Pound 1911). It also gives us the potential for using legal rules as an instrument to change behavior, and for analyzing the capacity of different legal rules and rule systems to induce behavioral change. Such a separation of rule from behavior is not possible in the same way when we are describing spontaneous or emergent social norms. A social norm can only be said to exist when there are patterned behaviors and expectations organized, in fact, around the norm. (Bicchieri (2006, 11) presents a careful definition.) It may be possible to take actions that influence the development or transformation of a social norm, but it is typically not possible to deliberately fine-tune the features of a social norm as we can with a legal rule.

Most analysis of law in economics and positive political theory focuses on the deliberate content of legal rules: economists with the largely normative aim of evaluating the welfare effects of alternative rules and positive political theorists with the goal of analyzing the effect of legal institutions on judicial choice. Our goal, however, is to analyze the phenomenon of legal order apart from the content of particular legal rules. What attributes must rules and institutions possess to generate behavior that is systematically governed, more or less, by legal rules? Under what conditions might legal order emerge? How can the stability of a legal order be improved? When does legal order depend on the availability of coercive enforcement by a centralized

authority? Is legal order possible without a significant role for decentralized enforcement mechanisms such as shame, reputation or ostracism?

Hadfield & Weingast (2011) presents a model directed at the first of these questions: what attributes must rules and institutions possess in order to generate behavior that is governed by those rules? The institutions that we consider are capable of articulating legal rules—more generally, a logic for classifying conduct in particular circumstances as "wrongful" or not—but not ones that possess any coercive power. Any enforcement of the rules—costly consequences that are triggered by engaging in conduct that the institution classifies as wrongful—arises from decentralized collective punishment. We assume that to effectively deter wrongful actions, a would-be violator must expect that a sufficient number of agents will punish a wrongful action. This also implies that would-be punishers are only willing to carry through on punishment if enough others are expected also to punish. (For a similar set of assumptions about collective punishment see Boyd, Gintis and Bowles (2010).)

We exclude the possibility of spontaneous organization of a set of social norms that deters rule violations. We do this by assuming that the would-be participants in a boycott do not naturally share the same ideas about what counts as a violation of the rules. Formally, we suppose that each agent possesses an *idiosyncratic logic* for classifying conduct in particular circumstances as wrongful or not. By idiosyncratic we mean that an individual's logic is both potentially unique and inaccessible to others (at reasonable cost), not that an individual's logic is unreasonable or odd. Idiosyncrasy can arise from many sources. Individuals may be from different cultural backgrounds; they may have different experiences and goals. We think of this diversity as a source of

political or economic value: pluralism may result from the availability of individual autonomy in a liberal community; a diversity of perspectives may prompt more effective problem-solving and innovation (Hong & Page 2001).

The model in Hadfield & Weingast (2011) thus frames the generation of legal order in terms of two problems that must be solved for an equilibrium in which legal rules are made effective by decentralized collective punishment. The first is a problem of coordination: given idiosyncrasy, would-be punishers need a means of determining when they should punish. The second is a problem of incentives. Participation in punishment is personally costly. We assume would-be punishers do not enjoy any intrinsic rewards from punishment; they do not have preferences for punishment. (Alternatively, our model can be interpreted as applying to a setting in which the cost of effective punishment exceeds any intrinsic benefits.) We consider instead the material payoff an individual punisher enjoys when would-be violators are effectively deterred. To participate in collective punishment, would-be punishers must be better off in an equilibrium in which would-be violators rationally anticipate that violations will trigger a coordinated collective punishment.

We show that an institution offering a set of legal rules characterized by several distinctive attributes can solve the coordination and incentive problems and thus support an equilibrium with effective deterrence. These attributes include the following:

- A common logic that provides a common knowledge mechanism for classifying behavior in particular circumstances
- Public accessibility and impersonal reasoning that allows any agent to implement the logic to reach a common classification
- Public reasoning that allows all agents to observe how the institution implements the logic in new circumstances

- Open process that allows heterogeneous agents to introduce idiosyncratic information and reasoning into public reasoning
- Immanent and generalizable principles that allow classification of circumstances that the institution initially cannot anticipate
- Unique classifications that can coordinate expectations in the manner of a focal point. This requires both a single logic and, ultimately, a single classification of particular circumstances.
- Given the potential for ambiguity, an authoritative steward of the logic, able to definitively resolve ambiguities and conflicts arising from the implementation of the logic.
- Generality that ensures that the logic applies to the circumstances and values of all agents required to punish if punishment is to be effective.
- Stability that allows an agent contemplating participation in punishment of a wrong done to someone else to anticipate that the logic will remain the coordinating logic in the future in the event that this agent is the potential victim of wrongful conduct.

These attributes help to solve the coordination and incentive problems facing a community of agents that is dependent on decentralized collective punishment to make a set of legal rules effective. Generality and stability, for example, address the incentive problem: agents who anticipate that the logic addresses their circumstances, and so coordinated punishment under that same logic can deter wrongs done to them in the future, will be willing to incur the costs of punishing current violations against others. In our model, the incentive to punish arises from the incentive to communicate private information: the extent to which a particular common logic is sufficiently convergent with an agent's idiosyncratic logic to ensure that the agent is better off under the coordinated equilibrium with costly punishment than the uncoordinated equilibrium without punishment costs. The other attributes listed above support the capacity of individual agents to anticipate that other agents will reach the same classifications as they do when they implement the logic. Anticipating coordinated common classification, even of circumstances that the institution learns about only if and when idiosyncratic

circumstances are communicated to it, allows agents to benefit from participating in costly punishments.

The details of the model and proofs are presented in Hadfield & Weingast (2011). Here we draw on the scenarios described above to develop our interpretation of the model and demonstrate how our coordination account of law generates insight into the attributes of distinctively legal orders.

Medieval Iceland. The system developed by the Vikings in 10th C. Iceland presents a clear example of several institutional attributes that we argue it is helpful to associate with a distinctively legal order. The system clearly lacks any form of centralized force to inflict punishment on wrongdoers and yet it also clearly rests on the operation of an institution—the Law Speaker—whose sole function is to serve as an authoritative steward of a common logic for classifying behavior. The Law Speaker also serves to make the logic publicly accessible: he recites the rules at the annual public gathering of citizens and must answer anyone's query about the rules. The logic must have been impersonal in the sense that its content did not depend extensively on the particular identity of the person applying the logic: the Law Speaker was elected for a three-year term. Legal rules and reasoning were expressed in general terms. Miller (1990, 62) recounts, for example, a law declaring that "It is prescribed that there shall be no such things as accidents" but that "if a man does worse than he intends to do and damage [to livestock] results from his clumsiness, that is not punishable at law and he shall make amends for the damage within two weeks time as it is evaluated by five neighbors. Otherwise it shall not be judged an accident." This generally-stated rule does not provide for distinctions among individuals or circumstances other than those

that the logic of the rule makes relevant, specifically the determination and timely payment of the required compensation.

The fact that the Law Speaker was the only public official in this system is indicative of the fundamental importance of a mechanism to reduce ambiguity in the assessment of what counts as a punishable action. Consider how punishment worked in this system: a person was declared to be in violation of the republic's rules by a court and appropriate compensation announced. If the compensation was not paid, then the person entitled to the compensation could choose to punish unilaterally—killing the offender, for example. The coordination problem arises in this system when we consider how the rest of the community responds when the offender is attacked. Do they classify the retaliation as wrongful or not? If wrongful, then the person carrying out the unilateral punishment is at risk for retaliation himself. If not, then he can carry out the punishment without risk to himself. This is what it means for the offender who does not pay the required compensation to be declared an outlaw: "anyone might slay him, like Cain, without incurring in respect of his death any liability on the footing of which his relatives could sue the slayer" (Bryce 1901, 281).

It is straightforward to see how a reduction in ambiguity in classification supports this system. The victim of a supposed wrongdoing has an initial choice: take revenge immediately or wait until a court has declared that he was wronged. If he takes revenge without a court declaration then he takes on the risk of how his acts of vengeance will be classified in the future: if his vengeance is not found to be justifiable, he will expose himself to retaliation. Suppose that there is significant uncertainty about this classification. Then the victim's behavior, and the behavior of others, will also be subject

to uncertainty: maybe the victim will wait to take revenge and maybe he will not; and if he waits, maybe he will be able to take revenge without risk of retaliation and maybe he will not. The same chain of uncertainty will play out for the decisions of any community members who might retaliate for unjustified acts of vengeance; and for others who might harm or kill the original supposed wrongdoer—whether out of solidarity with the victim or because, if the wrongdoer is an outlaw, killing him would bring collateral benefits and would not be punishable. Extensive uncertainty about the consequences of the original act of supposed wrongdoing will undermine the achievement of social order that is patterned around the content of deliberately chosen rules.

The violence of Viking society puts the importance of ambiguity reduction into sharp focus. In the presence of ambiguity about what counts as justified violence and what does not, violence seems far more likely to spiral out of control. Ambiguity about such judgments, however, is likely to plague a system based only on emergent social norms. Icelandic society was not close-knit; freemen lived fiercely independent lives only loosely affiliated with a group known as a thing headed by a chieftain who exercised little coercive power over his thingmen (Miller, 21-28). Such an environment is unlikely to spontaneously develop unique shared classifications of behavior across the myriad circumstances that might breed conflict. The emergence of a formal institution—the Law Speaker—for resolving ambiguity thus seems to indicate a critical shift in the mechanism by which Iceland achieved some level of social order. We argue that the adoption of this formal ambiguity-reducing device is usefully identified as a critical step in creating legal order, despite the absence of a centralized coercive authority.

Buddhist Tibet. The legal system in Buddhist Tibet presents a wholly different picture of a legal system, but it also supports our notion that coercive enforcement is not an essential feature whereas a designated procedure for resolving ambiguity is. Here we saw a relatively homogeneous society united by deep commitments to a complex cosmology and shared religious principles. Clearly social norms and religious authorities generated much social order. But, order also depended on a complex and formal legal structure that addressed itself to the resolution of disagreements about the proper classification of a situation: whether neighbors had the right to close up a toilet used by monks in a common courtyard (French 1995, 278-290), for example, or whether a long-time treasurer for a monastery had acquired rights to land as he claimed (241-245). Even a murder case could be prolonged because of an unwillingness of the suspect to agree about the facts of the case (admittedly, there could be incarceration and many uses of the "questioning whip" [302-303]).

Buddhist Tibet, unlike Medieval Iceland, had some capacity for centralized authority—the Dalai Lama wrote the 17th C law codes, for example, and over time state institutions such as police and jails did emerge. But the achievement of social order clearly depended heavily on a decentralized enforcement mechanism, specifically voluntary agreement to a resolution by all parties to a dispute. This was not merely a practical constraint, as is the pressure to settle and avoid litigation costs in modern legal systems where parties bargain in the shadow of the law (Mnookin & Kornhauser 1979). Consensus about classification was a fundamental tenet of Buddhist doctrine and the integration of that doctrine into a system of formal legal reasoning: crimes and civil disputes were seen as the product of errors in perception, with karmic consequences.

The central purpose of legal process was to strive towards the radically particular truth of a current situation, including its expression of past and future (French 1995, 61-74; 137-145).

Seen through the lens of our model, the system responded to extensive variation in idiosyncratic logic. The system demonstrates the role for immanent, generalizable rules that are elaborated in open processes to support the voluntary participation of individuals with idiosyncratic logic in the enforcement of the rules. The Tibetan law codes largely refrained from specifying the details of particular crimes, for example. Instead, the codes laid our "a method, a process, and not a specific rule," identifying a series of factors that the court was to investigate such as the seriousness of the crime, injury, root and immediate cause and the general placement of fault (318). The codes are thus in the form of deeply immanent principles, which cannot be used to classify events without extensive reasoning in light of particular circumstances. Indeed, the Tibetans, according to French (137-145), found the ideas of *stare decisis* and precedent—treating like cases alike—incomprehensible. The process of reaching an ultimate conclusion in any case thus rested on extensive procedures that were continuously open to further evidence and reasoning.

Without immanence and open process, the system could not achieve the critical goal of gaining the necessarily voluntary participation of all parties. Offenders had to consent to punishment or paying compensation; victims had to accept such punishment or compensation as a resolution that ended conflict. In order to secure participation, the system had to produce a classification that all involved could come to see as an accurate classification of a particular set of circumstances. The appeal to the logic of

Buddhist philosophy and the codification of procedures and factors helped to ensure that the system, despite high particularity, was nonetheless impersonal in the sense that the logic was expected to reach the same conclusion regardless of who conducted proceedings or implemented the reasoning.

The Buddhist system highlights the relationship between ambiguity reduction and the need to coordinate decentralized enforcement among a particular community of individuals. Enforcement of the law codes in Buddhist Tibet was not dependent on participation by a large group of individuals, as a system of shaming, reputation or group retaliation is. (This is not to suggest an absence of norms enforced through these widespread mechanisms; indeed there appears to have been a norm of seeing litigation as contrary to Buddhist values (73).) The system did not, therefore, emphasize the generation of a unique public classification, as the Icelandic system did. Instead it emphasized a unique resolution as between the parties to the dispute, who were the essential participants in the enforcement mechanism. Moreover, through its openness to ongoing development of idiosyncratic understanding about the truth of a situation, it probably secured the support of a key group of repeat participants in disputes, namely the monks who were involved in mundane disputes such as those discussed by French (1995): the location of a toilet, the acquisition of land rights. Idiosyncratic reasoning, nonetheless, was cabined in a formal structure that worked towards a unique resolution of different interpretations.

The Medieval European Law Merchant. The rise of long-distance trade triggered the Commercial Revolution in medieval Europe. Long-distance trade increased the heterogeneity of economic actors and heterogeneity lies at the root of value in the

division of labor and the extent of markets. In our model, heterogeneity is captured by the idea of an idiosyncratic logic: specialization and entrepreneurial effort produce distinctive perspectives and heuristics (Hon & Page 2001) for analyzing information and solving the problems of economic choice such as choosing raw materials, selecting production and distribution methods, devising agency and financing schemes, etc. As much as possible, economic actors in this environment want to ensure that their specialized capacity to make value-generating choices in production and trade is reflected in the rules governing their interactions with customers, suppliers, agents and other intermediaries (such as the organizers of fairs.) A group of traders who have developed a system of using agents to conduct trades on behalf of principals, for example, want to ensure that this practice—however alien and unusual it may appear to another group—is supported by rules that recognize the rights and liabilities of the principal.

Deference to idiosyncratic reasoning is, however, in tension with extensive interaction between anonymous traders—the form of trade that increased with long-distance. It is also in tension with the dependence on decentralized enforcement mechanisms such as reputation and boycott, which were the principal forms of enforcement in Europe prior to the consolidation of the nation state.

We see the efforts to resolve these tensions in the efforts devoted by merchants to ensure that their disputes were decided by particular, designated, institutions providing rules and dispute resolution: precisely, we suggest, to overcome the risk imposed by the multiplicity of rule systems that the heterogeneity of trading groups produced. Guilds had formal procedures for resolving disputes and elected or

recognized (often on a rotating basis) a single individual or group of individuals to serve as a final arbiter of disputes.

Having established these institutions to resolve ambiguity arising from heterogeneity among their members, merchants then resolved the ambiguity arising from a multiplicity of such institutions by attempting to make their own system exclusive. Italian merchants sought to ensure that they operated under Italian rules wherever they traded. Guilds penalized their members for taking cases into the regular common law or civil courts. Such behavior is explained by our model in terms of the balancing required between establishing a common logic that is sufficiently convergent with idiosyncratic logic and the need for reconciling ambiguity and disagreement among logics to produce coordinated collective punishment of transgression. The successful efforts over several centuries, as trade caused further integration between groups, to create a unified set of principles for commercial transactions and to extend the law merchant beyond guild members to all participants in commercial transactions is further evidence of the drive to reduce ambiguity in the face of heterogeneity.

The California Gold Rush. The surprising level of order that prevailed in the California Gold Rush provides a clear example of the value of our approach in distinguishing distinctively legal order from order based on spontaneous social norms. The observation that few interfered with a miner's claim to a new digging site so long as he left his tools in the hole and the size of the claim was small is an example, we argue (as does 20), of spontaneous social order based on a social norm. But this society moved beyond social norms to create a legal order when the miners in an area—sensing a potentially large claim near the site—met, drew up and adopted a detailed

mining code, and then largely behaved in accord with the code. With organization and the adoption of a particular code, the miners deliberately designed a framework for their interaction. They could adapt the code, and hence behavior, to changing circumstances; and they had a recognized means for resolving disputes. We suspect that the practice of shifting to the design of an articulated mining code created by a deliberately chosen body to replace unarticulated norms in the California Gold Rush arose precisely at the point at which ambiguity about what the norms required grew beyond a maximal threshold. None of these attributes of deliberate rule design and adaptation attend the spontaneous norm of respect for a small initial effort at digging: that norm is emergent, and its origin difficult to trace.

Focusing on centralized, public coercive enforcement misses the central difference between these two settings. The enforcement mechanism appears similar in the two cases: both before and after the mining codes appeared, enforcement rested entirely on the decentralized efforts of individuals at the camp. But this similarity obscures the key differences between the spontaneous social order organized around a norm and the deliberate and malleable order created by law.

The World Trade Organization. Like Gold Rush California in 1848, before effective state government was established, the countries that participate in the World Trade Organization deal with each other in an environment that lacks the capacity for coercive enforcement of rules. Nor is there a recognized supra-national legislature capable of imposing rules on individual countries. Instead, an international organization establishes rules for countries that wish to participate in the system.

The process used by Australia and New Zealand to resolve a 90 year-old dispute about apple quarantine restrictions presents a strikingly direct application of our model of legal order. Enforcement in this model requires coordinated responses to violations: reputational harms depend significantly on a widely shared assessment across the international community that behavior is wrongful. The apple case reveals the complexity of arriving at these shared assessments. Absent a coordination mechanism, how are the members of the WTO to determine whether Australia's ban was warranted by virtue of threats to the health of Australian apple orchards or an effort at protectionism using a trumped-up rationale?

Retaliatory measures are significantly less costly if they are perceived as justified by a country's other (third-party) trading partners (otherwise they too carry the reputational harms associated with violating free trade principles.) The WTO provides a common logic for assessing what are acceptable trade restrictions—both in the first instance and as retaliatory measures. It does so in an environment populated by countries with potentially widely-divergent perspectives on what counts as a justified restriction: in the Apples case, for example, significant attention was paid to the distinction between allowing Australia to choose its own level of appropriate risk of fireblight—a matter the international community does not seek to control—and ensuring that whatever level of risk Australia chose, its restrictions were scientifically warranted as necessary to reduce risks to those desired levels—a matter that is regulated.

The procedures used by this common-logic providing institution clearly seem designed to address the ambiguity and incentive problems posed by decentralized coordination in this environment. The WTO rules are written in highly general terms and

appeal to immanent principles; the SPS rules, for example, simply state that measures are to be "applied only to the extent necessary" and "based on scientific principles and . . . sufficient scientific evidence." A single designated body—the Dispute Resolution Body—is capable of articulating a final resolution of how these general principles apply in highly specific circumstances, although the DRB is subject to extensive procedural requirements and characterized by a commitment to recognized legal reasoning methods (such as an appeal to precedent). The DRB (together with the community of international lawyers, who present cases and critique DRB panel decisions) serves as the authoritative steward of that logic. WTO procedures allow for exhaustive public participation by individual countries, including countries that are not direct parties to a dispute, to ensure that the elaboration of the common logic is both publicly accessible and seeks to reconcile as much as possible with idiosyncratic reasoning.

This open public process clearly supports the enforcement mechanism: the willing participation of countries in the WTO system depends on an ongoing assessment by member countries that they are better off under the WTO's coordination than some other means of managing international trade disputes. Australia's explanation of its decision to comply with the WTO ruling in the Apples case—despite its obvious stance that its restrictions were justifiable and its appeal of the original decision—clearly reflects this motive for participating in the enforcement mechanism: "as a country dependent on exports, we cannot turn our backs on the WTO rules that support our nation's prosperity and that we used to gain access to other countries' markets."[2] A similar line of reasoning leads to the prediction that third-party countries would consider

[2] http://www.trademinister.gov.au/releases/2010/ce_mr_101130.html

a failure by Australia to honor the WTO decision wrongful but that they would not similarly criticize New Zealand for retaliatory measures if Australia failed to comply. The extensive reliance on legal methods and procedures thus plays a central role in coordinating decentralized enforcement and, according to our approach, the resulting order is thus usefully counted as "legal" despite the absence of coercive penalties.

Contracting in the New Economy. Our final example concerns the obstacles to private contracting even in environments where there is ostensibly coercive enforcement available: the new global economy, with its high rates of innovation and global collaboration. Here the need to resort to decentralized mechanisms, such as reputation, to enforce obligations arises from the gaps in formal contract enforcement. These gaps arise from several sources familiar from the incomplete contracting literature, including the difficulty of completely specifying obligations in relationships with high rates of change and uncertainty, as well as the weaknesses of court systems in developing markets and the difficulties of transnational litigation.

The tendency to nonetheless rely heavily on legal advice and documents in these relationships can be understood in our model as aiding the efficacy of decentralized enforcement. The common logic institution in these settings can be interpreted to be western (or a particular country's) legal reasoning; the authoritative steward (especially in the context where there is no formal adjudication) is the legal profession, populated by experts in a particular form of reasoning. A key attribute of legal training in most western-style legal systems is the capacity to anticipate the arguments others will make and to predict how an impersonal and perhaps never-to-be-confronted decisionmaker would resolve ambiguities in the interpretation of documents and the classification of

conduct as 'breach' or not. By adopting formal legal instruments and documents, contracting parties coordinate their interpretation of obligations and conduct. Reputation and repeat play mechanisms thus can work more effectively to secure commitments.

Implications for a Social Scientific Theory of Law

Our model provides a framework for analyzing law and legal institutions that addresses key issues about law with which social science currently struggles: how to distinguish law from other forms of order, such as social norms; how to identify when a transition to legal order has emerged; and what institutional features promote legal order. Our brief treatment of a series of cases where formal legal methods, institutions and actors play a key role in coordinating social order, despite the absence of centralized coercive force, suggests how more detailed analysis of different legal environments might proceed within this framework.

Others have put forth coordination models of law, including Cooter (1998), McAdams (2000, 2005) and Myerson (2004). These models, however, are specifically focused on law's capacity to select equilibrium in an underlying coordination game with multiple equilibria in which the equilibrium, once selected, is self-enforcing. That is, in these games, coordination is both necessary and sufficient for equilibrium. This is a relatively narrow subset of the settings in which legal rules operate. In Hadfield & Weingast (2011) coordination is necessary but not sufficient for equilibrium. Basu (2000) expands the scope of the coordination account beyond self-enforcing equilibria to consider coordination of rule enforcement by government officials, such as judges and police. All of these existing coordination models, however, collapse the distinction

between legal order and order based on spontaneous or emergent social norms, as their appeal to Sugden (1986)—who was expressly focused on spontaneous social norms—demonstrates. Moreover, in most of these accounts, one system of choosing a self-enforcing equilibrium works as well as another, including dictatorial fiat (as Myerson (2004) observes). McAdams (2005) considers the role of fact-based adjudication in resolving ambiguity in rules; he argues that fact-based adjudication improves over a randomized device for resolving ambiguity by controlling strategic incentives to manufacture disputes in weak cases. Our model provides a broader framework to expand on this connection between coordination incentives and the attributes of distinctively legal methods of resolving ambiguity.

Our work complements a literature in institutional economics that focuses on decentralized enforcement mechanisms, such as reputation, retaliation and community enforcement to support contractual relationships. Most of this literature denominates these enforcement mechanisms as "extra-legal" or as alternatives to the legal system because they do not draw on coercive powers of the state (e.g., Dixit 2006, Greif 2006). Our model demonstrates that many of the insights in this literature may also extend to a broader understanding of the role of law. For example, the Maghribi traders studied by Greif (1989, 1993, 2006) operated on the basis of community enforcement mechanisms to deter violations of their commercial code. Our framework classifies this system as legal if it generated attributes such as generality, impersonal reasoning, etc. It also focuses attention on key distinctions between community enforcement of social norms and enforcement of deliberately designed legal rules, and the pressure and potential to

develop institutions to accomplish a transition from social norms to deliberately stewarded rules as heterogeneity increases.

We also extend the insights of a literature that considers how legal institutions, such as the law merchant and limitations on sovereign power, can work to support decentralized contract enforcement mechanisms, such as reputation or collective boycotts (Milgrom, North & Weingast 1990 ("MNW"), Greif, Milgrom & Weingast ("GMW"), Greif 1993, 2006). Our approach overlaps with this literature, emphasizing the information-based coordination problem facing these decentralized mechanisms. MNW considers the problem of transmitting information about cheating across multiple potential trading partners in order to secure the benefits of a multilateral reputation mechanism. GMW identifies the problem of ambiguity in contracting violations in complex, decentralized environments. Although these approaches provide important insights about the mechanics of law as providing the information necessary for coordination, they do not explain the distinctive features of legal order.

Our model also connects the growing literature on collective punishment in human societies with the analysis of law and its evolution. Experimental (Fehr & Gachter 2002) and ethnographic (Henrich et al. 2006) evidence suggests a willingness to punish others with no immediate return benefits. Explanations for this behavior posit that humans have evolved preferences for punishment (Boyd, Gintis & Bowles 2010) and emotional responses to wrongdoing that trigger punishing reactions (Fehr & Gachter 2002). Our framework adds to this literature by suggesting an additional, complementary, reason for individuals to participate in costly collective punishments, namely, the incentive to signal a willingness to participate in a particular coordinated

equilibrium. (Signalling a willingness to punish has been identified as a feature critical to the evolutionary theory of preferences for punishment (Boyd, Gintis & Bowles 2010).) Our analysis then focuses attention on the institutional environment in which decentralized punishment occurs and how increases in complexity and heterogeneity in the environment can requires explicit institutional mechanisms to coordinate punishment. This approach provides additional tools for evolutionary and ethnographic study of the role of collective punishment.

Conclusion

Over the past few decades, economists, and political scientists have become increasingly interested in the role of law and legal institutions in generating stable market democracies. We have gained considerable insight into how particular laws and policies impact economic and political activity, particularly in the advanced Western societies where this research is largely conducted. But, as we have argued in this chapter, much of this work has been conducted without an overarching social scientific account of law as a phenomenon: how legal rules are distinguished from social norms on the one hand and tyrannical power on the other; how and when the rule of law can be expected to emerge or be stabilized; or explaining the emergence of stability of the characteristics of a distinctively legal order. Moreover, to the extent social scientists provide an account of law, it is rooted in the idea that law exists only when there is centralized rulemaking and centralized coercive enforcement of those rules. As we have shown with a series of scenarios that display significant levels of legal order without the presence of centralized coercive authority, making coercion the sine qua

non of legal order limits our ability to understand law and to explain and differentiate these settings from other forms of social order.

We have proposed a different starting point for a positive model of legal order, one that presumes only decentralized enforcement of legal rules and a notion of law as a distinctively intentional, and hence policy-sensitive, form of governance by rules. Focusing on decentralized collective punishment mechanisms such as reputation, retaliation, shame, ostracism, and the like brings into view the central problem of coordinating diverse individuals on common interpretation of when conduct warrants punishment and when it does not. The role of a legal institution—capable of unique classification of conduct as wrongful or not—in reducing ambiguity to coordinate collective punishments provides an account of what is distinctive about legal order. This approach gives us a new framework for analyzing a wide range of questions that concern social scientists, including the puzzle of how human societies have developed such extraordinary levels of social cooperation, the relative roles played by the evolution of preferences for altruistic punishment and incentive-based accounts of why people are willing to engage in costly punishment, and how institutions might be better designed to support the development of legal order in transition, developing and poor countries and the expansion of global trade and democratic integration

References

Audretsch, David B. *The Entrepreneurial Society*. New York: Oxford University Press.

Basu, Kaushik. 2000. *Prelude to Political Economy: A Study of the Social and Political Foundations of Economics*. New York: Oxford University Press.

Bicchieri, Cristina. 2006. *The Grammar of Society*. New York: Cambridge University Press.Boehm, Christopher. 1993. "Egalitarian Behavior and Reverse Dominance Hierarchy." Current Anthropology 34: 227-254.

Boyd, Robert and Peter Richerson. 1992. "Punishment Allows the Evolution of Cooperation (or Anything Else) in Sizable Groups." *Ethology and Sociobiology* 13:171-195.

Boyd, Robert, Herbert Gintis and Samuel Bowles. 2010. "Coordinated Punishment of Defectors Sustains Cooperation and Can Proliferate when Rare." *Science* 328: 617-620.

Bryce, James. 1901. *Studies in History and Jurisprudence*. New York: Oxford University Press.

Cooter, Robert. 1998. "Expressive Law and Economics." *Journal of Legal Studies* 27: 585-608.

Dixit, Avinash. 2006. *Lawlessness and Economics: Alternative Modes of Governance*. New York: Oxford University Press.

Ellickson, Robert C. 1991. *Order Without Law: How Neighbors Settle Disputes*. Cambridge, MA: Harvard University Press.

Falk Moore, Sally. 1973. "Law and Social Change: The Semi-Autonomous Social Field as an Appropriate Subject of Study." *Law and Society Review* 7, 719-746.

Farnsworth, Alan. "Disputes over Omissions in Contracts." Columbia Law Review 68: 860-891. Fehr, Ernst and Urs Fischbacher. 2004. *Evolution and Human Behavior* 25:63-87.

Fehr, Ernst and Simon Gachter. 2002. "Altruistic Punishment in Humans." *Nature* 415: 137-140.

French, Rebecca. 1995. *The Golden Yoke: The Legal Cosmology of Buddhist Tibet*. Ithaca: Cornell University Press.

Greif, Avner. 1989. "Reputation and Coalitions in Medieval Trade: Evidence on the Maghribi Traders." *Journal of Economic History* 49: 857-882.

_____. 1993. "Contract Enforceability and Economic Institutions in Early Trade: The Maghribi Traders' Coalition." *American Economic Review* 83: 525-548.

_____. 2006. *Institutions and the Path to the Modern Economy: Lessons from Medieval Trade*. London: Cambridge University Press.

Greif, Avner, Paul Milgrom and Barry R. Weingast. 1994. "Coordination, Commitment, and Enforcement: The Case of the Merchant Guild." *Journal of Political Economy* 102: 745-776.

Guzman, Andrew. 2008. *How International Law Works: A Rational Choice Theory*. New York: Oxford University Press.

Hadfield, Gillian K. and Barry R. Weingast. 2011. "What is Law? A Coordination Model of the Characteristics of Legal Order." Forthcoming *Harvard Journal of Legal Analysis*. Available at http://works.bepress.com/ghadfield.

Henrich, J. et al (2006) Costly punishment across human societies. *Science* 312: 1767-1770.

Hoebel, E. Adamson. [1954] 2006. *The Law of Primitive Man: A Study in Comparative Legal Dynamics*. Cambridge: Harvard University Press.

Hong, Lu and Scott E. Page. 2001. "Problem Solving by Heterogeneous Agents." *Journal of Economic Theory* 97: 123-163.

Kornhauser, Lewis A. 2004. "Governance Structures, Legal Systems and the Concept of Law." *Chicago-Kent Law Review* 79: 355-381.

Lin, L-W (2009) Legal transplants through private contracting: codes of vendor conduct in global supply chains as an example. *American Journal of Comparative Law* 57:711-744.

Macneil, Ian R. "The Many Futures of Contract." *Southern California Law Review* 47: 691-816.

McAdams, Richard H. 2000. "A Focal Point Theory of Expressive Law." *Virginia Law Review* 86: 1649-1729.

McAdams, Richard H. 2005. "The Expressive Power of Adjudication." *University of Illinois Law Review* 2005: 1043-1121.

McDowell, Andrea. 2004. "Real Property, Spontaneous Order, and Norms in the Gold Mines." *Law and Social Inquiry* 29: 771-818.

Milgrom, Paul, Douglass C. North and Barry R. Weingast. 1990. "The Role of Institutions in the Revival of Trade: The Medieval Law Merchant, Private Judges, and the Champagne Fairs." *Economics and Politics* 2: 1-23.

Miller W I (1990) *Bloodtaking and Peacemaking: Feud, Law, and Society in Saga Iceland*. Chicago: University of Chicago Press.

Mitchell, W. 1904. *An Essay on the Early History of the Law Merchant*. London: Cambridge University Press.

Mnookin R H, Kornhauser L (1979) *Bargaining in the Shadow of the Law: The Case of Divorce*. Yale L J 88:950-997.

Myerson, Roger B. 2004. "Justice, Institutions and Multiple Equilibria." *Chicago Journal of International Law* 5: 91-107.

Pound, Roscoe. 1911. "The Scope and Purpose of Sociological Jurisprudence." *Harvard Law Review* 24: 591-619.

Sugden, Robert. 1986. *The Economics of Rights, Cooperation and Welfare*. New York: Palgrave Macmillan.

Umbeck, John. 1981. *A Theory of Property Rights: With Application to the California Gold Rush*, Ames, Iowa: Iowa State University Press.

Wiessner, Polly. 2005. "Norm Enforcement among the Ju/'hoansi Bushmen: A Case of Strong Reciprocity?" *Human Natur*e 16: 115-145.

Williamson, Oliver E. 1975. *Markets and Hierarchies: Analysis and Antitrust Implications*. New York: Free Press.

_____. 1985 *The Economic Institutions of Capitalism.* New York: Free Press.