

# Thicker Selves in Law and Economics: Towards Unified Social Theory

By

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abstract: The economic analysis of law initially treated sanctions as prices and used price theory to predict changes in behavior caused by changes in laws. By supplying law with its first scientific theory of behavior, the economic analysis of law succeed more than its most optimistic proponents could have hoped. However, economics cannot as yet model the internalization of norms by which law decentralizes. I propose such a model based on "thickening economic man," so that self-interest includes values and goals beyond maximizing income or power. Such a theory of internalization would unify economics and developmental psychology.

**Thicker Selves in Law and Economics:**

**Towards Unified Social Theory<sup>1</sup>**

Among modern scholars, Wolfgang Fikentscher most reminds me of Max Weber. Both of them used sociological methods and encyclopedic knowledge to span history and disciplines. In this lecture I proceed in a similar spirit to contemplate the unification of economics, sociology, and psychology.

I recently had the following conversation with my little boy.

“Daddy, you are always talking about the ‘theory of this’ and the ‘theory of that.’ What does ‘theory’ mean?”

“Well, son, in the morning you go to school, and after school you go to soccer practice, trumpet lessons, a friend’s house, or to a shop. Suppose that one morning, instead of going to school, you went up in a balloon high over Berkeley and you looked down at all the places where you go each day. You could make a map that shows how everything fits together. That’s what I want to do. I want to see how law and economy fit together. Theory is the balloon that takes me up.”

“Do you mean a hot-air balloon, daddy?”

These deflationary remarks are a fit introduction to a lecture on law and unified social theory. An economist who talks about unified theory to lawyers and social scientists gets welcomed rather like the British expedition to Afghanistan in 1840. The Afghanistans preferred to fight rather than join the British empire, and many social scientists are similarly disposed towards the economics empire. Like the 19th century British, however, economics imperialism has succeeded remarkably. Economic models have affected all the social sciences in the last 30 years, as well as history, philosophy, and law. Friends and foes should want to understand its success.

In my lecture today I will try to explain the success of the economic analysis of law. I will not, however, merely praise economics. With ideas as with romance, intense feelings are complicated; love is close to hate. As an undergraduate, I had an aversion to materialism. A family and a mortgage cured my aversion.<sup>2</sup> However, the majesty of law,

the struggle of politics, and the deciphering of culture still interest me more than the efficiency of markets. I applaud the extension of economics to new subjects, but I can also see that it damages them. Like political imperialism, economic theory has more strength than wisdom. Deficiencies in the economic model of behavior separate it unnecessarily from other sciences and disciplines. The worst deficiency is the absence of an economic theory of the internalization of norms. I propose to “thicken” the model of “economic man,” so that self-interest includes values and goals beyond maximizing income and power. The development of such a model would unify social science and invigorate its application to law.

### **I. Progress in Economic Analysis of Law<sup>3</sup>**

I begin by describing the success of the economic analysis of law. Until recently, law confined the use of economics to antitrust, regulated industries, tax, and monetary damages. Law obviously needed economics to answer such questions as, “What is the market share of an alleged monopolist?”, “Will price controls reduce the availability of automobile insurance?”, “Do the rich pay the capital gains tax?”, and “How much future income do children lose from their father’s death?” Beginning in the 1960’s, however, the breadth of the economic analysis of law expanded remarkably by its application to property, contracts, torts, crimes, procedure, and constitutional law. Economic analysis addressed new questions such as, “Will private ownership of the electromagnetic spectrum encourage its efficient use?”, “What damage remedy for breach causes the most reliance on contracts?”, “Does strict liability for consumer product injuries cause excessive precaution by manufacturers?”, “Will harsher punishments deter violent crime?”, and “Does bicameralism increase the discretionary power of courts?”

By answering such questions with models, economics changed American legal scholarship. At least one economist belongs to the faculty of every top law school in America; some law faculties in Western Europe also include an economist. Joint degree programs in law and economics exist in many prominent American universities. Law and economics associations meet annually in Europe, Canada, and America. Law reviews publish many articles using the economic approach and some journals are devoted

exclusively to law and economics. Many law school classes in America now summarize the results of applying economic analysis to the subject of the class. An exhaustive study recently found that the major American law journals cite articles using the economic approach more than articles using any other approach.<sup>4</sup> In 1991 and 1992, the Nobel prizes in economics were awarded to Ronald Coase and Gary Becker, two pioneers in the economic analysis of law.

Outside of the universities, economic analysis affected law and public policy in various ways. Economic analysis provided the intellectual foundation for the deregulation movement, which dramatically changed the law for regulated industries in several countries. A committee created by the U.S. Congress in 1984 to reform criminal sentencing in the federal courts (the U. S. Sentencing Commission) explicitly used the findings of law and economics to reach some of its results. Several law and economics scholars have become U.S. federal appellate judges (Richard A. Posner, Frank Easterbrook, Robert Bork) and one has become a Justice on the U.S. Supreme Court (Stephen Breyer).

## **II. Why Did the Economic Analysis of Law Succeed?**

The economic analysis succeeded more than its most optimistic founders expected. Why? Like the rabbit in Australia, economics found a vacant niche in the intellectual ecology and rapidly filled it. To understand the niche, consider this classical definition: “A law is an obligation backed by a state sanction.” Lawmakers and adjudicators often ask, “How will this sanction affect behavior?” For example, if the manufacturer of a defective product faces liability for consequential damages, what will happen to the product’s safety and price?

Lawyers answered such questions in 1960 in much the same way as in 60 BC, by consulting intuition and any available facts. A scientific theory to predict the effects of sanctions upon behavior, which lawyers lacked, developed from economics after 1960. Just as laws impose sanctions on acts, markets charge prices for commodities. Economists developed price theory, which is mathematically precise and empirically confirmed, to predict how people respond to prices. Both sanctions and prices impose

costs on behavior. Presumably, people respond to heavier sanctions much like they response to higher prices. Adapting price theory to law allowed economists to predict how people respond to sanctions.

To illustrate, suppose that a manufacturer knows that his product will sometimes injure consumers. How safe will he make the product? The answer depends upon the actual cost of safety, which depends in turn upon facts about design and manufacture. In addition, the answer depends upon the “implicit price” paid by the producer for injuries to consumers, including liability. The producer will need the help of lawyers and other experts to estimate the implicit price. After obtaining the needed information, the rational producer will compare the cost of safety and the implicit price of accidents. To maximize profits, the producer will adjust safety until the actual cost of additional safety equals the implicit price of additional accidents.

I have been discussing sanctions as if they were fixed prices. Some prices, however, are negotiated rather than fixed. Understanding negotiation requires strategic theory. In American football, a player often runs around the right side as a decoy to fool the other team while the player carrying the ball runs around the left side. In contrast, a mountain climber never starts up the south slope as a decoy to fool the mountain while the main party climbs up the north slope. Football is strategic and mountain climbing is non-strategic. In strategic games, each player forms his strategy on the assumption that other players anticipate what he will do. In non-strategic games, each player assumes that other players do not anticipate what he will do.

I explained that economists apply price theory to law by treating sanctions as prices. Price theory usually assumes that people behave non-strategically. Specifically, each participant in a competitive market expects that his own buying and selling will not affect prices. In contrast, game theory analyzes strategic behavior. The rules of a game prescribe the moves that players may make, and the theory of games predicts how people will change their moves in response to changes in rules. Like rules of games, rules of law prescribe how people may interact with each other. When people interact in the shadow of the law, their behavior often depends upon what each person thinks the others will do. Consequently, rules of law are like rules of games for purposes of economic analysis.

Whether people behave strategically or non-strategically often depends upon the number of players in the game. In games with many players, each one may assume that his behavior alone cannot affect what others do, as in a perfectly competitive model. In games that pit a few players against each other, each one may assume that his behavior affects what others do. For example, the two parties in settlement bargaining try to anticipate each other's offers, the principal in a fiduciary relationship drafts a contract that anticipates the agent's reaction, and a person who creates a nuisance on his property may anticipate his neighbors' response.

The original applications of price theory to law generally treated sanctions as competitive prices, so the models were non-strategic. To illustrate, each criminal assumes that his crimes cannot affect the state's schedule of criminal sanctions, each consumer assumes that his precaution will not affect the probability of a product being defective, and each commuter assumes that her decision to drive her car to work will not affect the corresponding decisions of other commuters.

Non-strategic behavior is simpler to analyze than strategic behavior. Early in its development, the economic analysis of law found a technique for analyzing strategic behavior as if it were non-strategic. The most famous proposition in the economic analysis of law, the Coase Theorem, asserts that bargaining succeeds so long as "transaction costs" are low. Thus the Coase Theorem treats strategic behavior as a cost. Treating strategic behavior as a cost facilitated the rapid assimilation of price theory into law.

To illustrate, assume that a rancher's cows trespass and damage a farmer's fields. To correct this situation, the rancher should fence the cows in, or the farmer should fence the cows out. The rule of law might be open range (right to let cows roam) or closed range (right to be free from trespassing cattle). Most students initially think that the rule of law will determine who builds the fence. But suppose the farmer married the rancher. They would presumably combine their books and maximize joint profits. When maximizing joint profits, the rule of law will not influence the fence's location. Coase reasoned that bargaining between rational people would yield the same result as marriage. By bargaining together, rational people agree to maximize their joint profits and divide

the profits from cooperation. The cost of bargaining (phone calls, discussions, drafting contracts, and so forth) represents an obstacle to cooperation. Coase referred to all such obstacles as “transaction costs.”

In reality, strategic behavior does not resemble the cost of oranges, haircuts, or any other good. Calling strategic behavior a “cost” postpones analyzing it.<sup>5</sup> Game theorists are reworking the economic analysis of law under the assumption that people behave strategically, just as they transformed the study of industrial organization in the 1980’s.<sup>6</sup> To illustrate, assume that a defendant in a mass tort case faces suits from many plaintiffs, and the defendant offers a moderate, uniform settlement to a fraction of them. Consider how the offer screens and sorts plaintiffs. Plaintiffs with strong cases reject a moderate settlement offer and proceed to trial; plaintiffs with moderate cases accept a moderate settlement if offered and go to trial otherwise; plaintiffs with weak cases accept a moderate settlement if offered and drop the case otherwise. The rational defendant uses these facts to compute the settlement strategy that minimizes his costs.

Generalizing, we can say that economics provides a behavioral theory to predict how people respond to changes in laws. At the simplest level, where people respond, not to each other, but to the sanctions imposed by the state, price theory predicts how changes in sanctions change behavior. At a more complex level, where people respond to the state and to each other, game theory predicts how changes in laws change behavior. These theories surpass intuition just as science surpasses common sense.

In addition to a scientific theory of behavior, economics provides a useful normative standard for evaluating law and policy. To make public policy, judges and other lawmakers need to know its effects on important values. A member of the California Supreme Court recently presided over a mock trial (“moot court”) conducted by law students. After listening to an hour of technical legal arguments, he banged his fist on the table and said, “What are the policy arguments? This is the highest court in California. I want to know the policy arguments!” To make public policy, judges and other lawmakers need to know its effects on important values.

Economics predicts the effects of policies on efficiency. Public officials never publicly advocate wasting money, so efficiency is always relevant to policy debates.

Besides efficiency, economics also predicts the effects of policies on distribution. More than other social scientists, economists understand how laws affect the distribution of income and wealth across classes and groups. To illustrate an early application to public policy, 19th century economists predicted who really bears the burden of alternative taxes. In general, economics predicts how laws affect efficiency and distribution, which are two of the most important policy values for lawmakers.

Some economists obscure these facts in scientific ideology. They reason that science is value free, and economics is a science, so economics must be value free. To maintain this stance, they split economics in half and say that “positive economics” is value-free science, whereas “normative economics” is value-laden non-science. Economic papers cannot be sorted in this way because the typical economic model predicts a particular equilibrium and tests its efficiency. In my view, puffery about the ethical neutrality of economics is physics envy. To avoid confusion, think of economics as a policy science. By definition, a policy science predicts how policies affect significant values. A policy science is useful because its core contains values that policy maker’s pursue. Economics is so useful because it has two important policy values at its core, specifically efficiency and distribution.

### **III. X-Ray Vision v. Peripheral Vision**

In spite of its institutionalization, many law professors in America say that economics no longer dominates the runway of intellectual fashion as it once did. Some professors even talk about a “crisis” in the subject.<sup>7</sup> A radio commentator allegedly summarized the evening news by saying, “The political crisis in Germany is serious but not desperate, and the political crisis in Italy is desperate but not serious.” The alleged “crisis” in law and economics is not desperate, because its institutionalization continues unabated. Nevertheless, serious deficiencies in the subject impair the realization of its full potential.

One of the most thoughtful commentators on the economic analysis of law, Robert Ellickson, believes economists make too many models of law and test too few of them. A typical Ph.D. dissertation in the economic analysis of law builds an untested

model. Ellickson thinks that economic theory outruns legal facts.<sup>8</sup> His remedy is a dose of empirical research, as exemplified by sociologists in the “law and society” movement. In response, I note that the problem arises from deficient data, not recalcitrant economists. Mainstream economics does not suffer from deficient empirical research. Economists typically draw contradictory predictions from rival models and test the predictions against the data. A typical Ph.D. dissertation in economics tests an existing model. The problem in law and economics is that the quality of the available legal data is too low for testing of hypotheses. To illustrate, attempts to test the “deterrence hypothesis” -- the hypothesis that more severe punishments significantly deter crimes -- are plagued by incomparabilities and errors in the data. Correcting errors and gaps in data requires more donkey-work than most economists will do. The economic analysis of law resembles macroeconomics before national accounting. To stimulate econometric research on law, government must hire statisticians trained to supply data useful for testing behavioral theories. Econometric research will increase as legal accounting improves. Ideally, the U.S. would develop national legal accounts, just as it has developed macroeconomic accounts.

With powerful theories and good data, modern geologists sometimes predict where to find minerals. With weak theories and bad data, miners must follow their hunches. Like experienced miners, some social scientists find valuable insights by sifting bad data. Sociologists are more likely than economists to mine interesting data for insights. Mining for insights proceeds by an openness to many possibilities. In contrast, the testing of hypotheses proceeds by comparing a few alternatives. The few alternatives are specified by a theoretical model. Economists are reluctant to mine bad data for insights because this activity makes little use of theory, whereas sociologists have little predictive theory to make use of.

Theory explains by narrowing attention to recognized causes. Narrowing attention to the real causes promotes understanding and control. However, narrowing attention to exclude some real causes undermines understanding and control. Consequently an incomplete theory may prevent a researcher from perceiving all the facts. Economics has x-ray vision, whereas sociology has peripheral vision. I will explain how incompleteness

in economic theory prevents researchers from perceiving facts that psychologists and sociologists regard as central to law.

#### **IV. Core**

Economists usually assume that people *maximize* something -- consumers maximize utility, firms maximize profits, politicians maximize votes, bureaucracies maximize revenues, charities maximize social welfare, and so forth. Theories that assume maximizing have proven useful in predicting behavior. Economists often say that these models succeed because maximization models rationality and most people are rational.

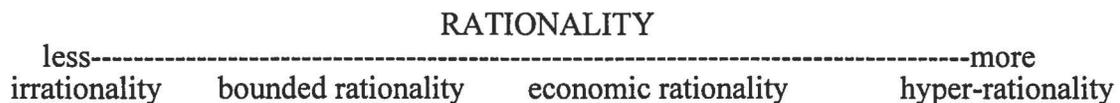
Evaluating this claim requires an understanding of economic rationality. Different people want different things, such as wealth, power, fame, love, virtue, or happiness. One conception of rationality holds that a rational person can rank alternatives according to the extent that they give her what she wants.<sup>9</sup> Rationality further requires choosing the highest ranking alternative that is available. It would be irrational to do worse by your own standards when you can do better.

Choosing the highest ranking alternative that is available can be described mathematically as maximizing. Just as the person ranks alternatives from worse to better, so the real numbers can be ranked from small to large. To represent the ranking of alternatives mathematically, create a “utility function” to associate better alternatives with larger numbers. Next, partition the set of alternatives into the available alternatives and the unavailable alternatives. Represent the partition mathematically as a constraint upon the utility function. Choosing the best available alternative corresponds to maximizing the utility function subject to the feasibility constraint. For example, the consumer who goes shopping probably thinks of himself as trying to get as much of what he wants as he can afford, and his behavior is represented as maximizing his utility subject to his budget constraint.

The maximum of a function is located mathematically where its derivative equals zero, or, in economic jargon, where costs and benefits equalize at the margin. Economists realized this fact when they combined utilitarianism and calculus in the late 19th century. The result was the “marginalist revolution,” which gave economic theory

its modern form. Subsequent developments have built upon the late 19th century foundations without discarding them. It seems that the marginalists got the foundations right, whereas attempts at mathematical economics before the marginalists went nowhere.

“Maximizing” suggests that an agent calculates and tries to do the very best that she can. Calculation and effort admit degrees. To encompass all degrees, think of rationality as a continuum. At one end stands “hyper-rationality,” which assumes perfectly consistent motives, unlimited powers of calculation, and perfect information. To illustrate, the efficient market hypothesis has achieved surprising success by assuming hyper-rationality in stock markets. Slightly below hyper-rationality lies “economic rationality,” which requires high (but not unlimited) computational ability and much (but not perfect) information. The typical economic model assumes economic rationality. Below economic rationality lies “bounded rationality,” where limits on computational ability and information cause performance to slip below economic rationality. Bounded rationality proves especially useful in the study of large organizations.<sup>10</sup> Below bounded rationality lies irrationality, where severe limits on computational ability and information cause internally inconsistent behavior. To illustrate, irrationality explains spontaneous wrongdoing, such as some youthful crime or reckless driving.



In general, movement along the continuum from right to left represents diminishing rationality. Law often focuses on trials where courts sanction diminished rationality, whereas economics often focuses on markets where competition eliminates diminished rationality. Thus hyper-rationality is especially relevant to market competition, and irrationality is especially relevant to some kinds of trials.

I have explained that a mathematical model of maximization applies when actors “do the best that they can.” As rationality diminishes, the maximization model adjusts by assuming that people cannot do so well as formerly. In technical terms, diminished rationality is modeled as maximization subject to additional constraints, which typically involve higher costs of calculation and information. As constraints pile up, some

theorists have attempted to abandon the mathematics of maximization. So far, however, no alternative to maximization has proved sufficiently tractable for wide-spread use by economists in mathematical models.<sup>11</sup>

Turning to the second concept in the core of economic theory, no habit of thought is so deeply ingrained among economists as the urge to characterize each social phenomenon as an *equilibrium* in the interaction of maximizing actors. An equilibrium is a pattern of interaction that persists unless disturbed by outside forces. An equilibrium is *stable* if the system tends towards it when out of equilibrium. To illustrate, the snow pack in a mountain's bowl is in stable equilibrium, whereas the snow pack on the mountain's side is unstable. Economists usually assume that interactions tend towards a stable equilibrium, regardless of whether they occur in markets, elections, clubs, games, teams, corporations, or marriages.

An actor who tries to maximize and succeeds has no reason to change his behavior. An interaction is an equilibrium when no one changes his behavior. Consequently, an equilibrium exists when all actors maximize simultaneously. Conversely, an actor who tries to maximize and fails will change his behavior. An interaction is not an equilibrium when someone changes his behavior. Thus "maximum" and "equilibrium" are connected concepts.

Social theorists often debate the relationship between the individual and society. Sociologists sometimes argue that the group is more than the sum of its parts, just as an animal is more than the sum of its head, torso, and limbs. Many sociologists detach concepts like "role" and "class" from the goals of individuals and imbue them with their own life. At the other extreme, some biologists practice methodological individualism, which reduces the study of groups to the behavior of organisms.

Unlike these approaches, an equilibrium does not *detach* from individual behavior or *reduce* to individual behavior. Rather than detaching from individual goals, an equilibrium necessarily allows individuals to attain their goals. Rather than reducing to individual behavior, an equilibrium cannot exist except in a group. In a strategic equilibrium, each person responds to the strategies of the other people. Remove the others and the individual changes his behavior. For example, the market price depends

upon the interaction of many buyers and sellers, who pursue their own self-interest. So does the unemployment rate or the inflation rate. Economists do not think that they can explain prices, unemployment, or inflation until they construct a model of interacting individuals whose equilibrium accurately predicts the phenomenon in question.

The interdependency of people assumes a strong form that can be described as “second order” responsiveness. “First order” means that each person responds to the strategy of other people. “Second order” means that each person anticipates the response of other people to his own behavior.

In a non-strategic equilibrium, each individual responds to the actual behavior of others, which can be called “first order responsiveness.”<sup>12</sup> Social animals other than humans exhibit first order responsiveness. In a strategic equilibrium, each individual *anticipates* the response of other people to his own behavior, which can be called “second order responsiveness.”<sup>13</sup>

When everyone’s anticipations are accurate, everyone knows the strategy of everyone else. When everyone knows the strategy of everyone else, and no one wants to change strategies, the game is a “Nash” equilibrium. (The Nobel Committee cited this concept in awarding the Nobel Prize to Nash in 1994.) In general, the equilibrium concept is consistent with various orders of interdependency. Later, I discuss the concepts of “value interdependency” and “equilibrium values.”

“Equilibrium” describes a precise relationship between individuals and society, whereas popular metaphors often fail scrutiny. Consider three popular metaphors sometimes used by social scientists to criticize economics. Is society “more than the sum of its parts?” Some people answer “yes,” and they suppose that economists must answer “no.” But what must be added to arrive at the sum? Society lacks a metric. The metaphor, although suggestive, is strictly meaningless, because “summing” the parts of society is meaningless.

Similarly, some people say that the parts of society are like the organs in a body.<sup>14</sup> Comparing the society of bees to an organism makes sense. Genetic identity directs different bees in a hive towards the same goal, much as genetics directs different organs in a body towards the goal of health. However, comparing human society to an

organism makes little sense, because people compete intensively with each other. Like bees, people perform roles, but unlike bees, people subvert roles and change them. Any social theory that omits competition among individuals leaves out the engine of change.

Similarly, some people say that the parts of society are like the components of a machine. Comparing the roles of bees to the functions performed by the parts of an automobile engine makes some sense, because bees perform their roles rigidly. A worker-bee does not change his mind and become a soldier-bee. In contrast, people commit to roles tentatively and perform them flexibly. A person may quit his job as a worker and become a soldier. A theory of human roles must explain what keeps people in them.

A system headed towards a stable equilibrium reaches its destination unless diverted by outside forces. In markets and social life, outside forces often divert an interaction before it reaches equilibrium. Nevertheless, an equilibrium analysis makes sense methodologically. The simplest pattern of interaction to analyze is one that does not change. Tracing out the entire path of change is relatively difficult. Microeconomic theories of growth, cycles, and disequilibria exist, but they have received little application to law so far. The basic approach in law is “comparative statics,” in which the equilibrium under one legal rule is compared to the equilibrium under another legal rule. For example, the level of precaution by injurers is compared under the rule of strict liability and the rule of negligence.

The core concepts of maximization and equilibrium concern social interaction, not specifically market interaction. These concepts could have been developed in political science or psychology, rather than in economics. Consequently, I think of these two concepts as part of the core of behavioral theory, not just the core of economic theory.

Turning to the third concept in the core of economic theory, economists often evaluate an equilibrium according to its efficiency. A production process is said to be efficient if it is impossible to produce the *same* amount of output from fewer inputs, or it is impossible to produce *more* output from the same inputs. Another kind of efficiency, called “Pareto efficiency” after its inventor, concerns the satisfaction of individual preferences. A particular situation is said to be Pareto efficient if it is impossible to change it so as to make at least one person better off (in his own estimation) without

making another person worse off (again, in his own estimation). In general, Pareto efficiency asks whether someone can be made better off without making someone else worse off.

I will suggest, but not fully explain, why “efficiency” is more central than “distribution” to economics, especially for the economic analysis of law. Almost everyone agrees that the state should pursue policies efficiently rather than inefficiently, but many people disagree about policy goals concerning the distribution of income. Some people think that government should redistribute wealth from rich to poor for the sake of social justice, whereas other people think that government should avoid redistributing wealth. Like the rest of the population, economists disagree among themselves about redistributive ends. Consequently, economists fail to reach a consensus over the measure of distribution to place in the discipline’s core.

Unlike other people, many economists agree about redistributive means. Most economists who study law believe that redistributive goals can be accomplished better in modern states by progressive taxation than by reshuffling legal rights in such fields as torts, contracts, and crimes. Consequently, the economic analysis of law is more likely to concern itself with efficiency than distribution.

I can mention only a few of the reasons why economists believe that broad-based taxes are a better tool of redistribution than private or criminal law. First, redistributing a dollar from one group to another uses up some of it. Redistribution by courts costs much more than redistribution by taxes. To illustrate, a plaintiff’s attorney in the US routinely charges one third of the judgment, whereas an accountant who prepares someone’s income tax return charges a small fraction of the person’s tax liability. Second, redistribution by legal rights distorts the economy far more than progressive taxation. For example, transferring a small amount of wealth through income taxation causes a relatively small change in the behavior of tax payers, whereas transferring the same amount of wealth by assigning tort liability for the side-effects of medicinal drugs will cause a relatively large change in the behavior of drug companies. Third, the income tax targets inequality precisely, whereas private law relies upon crude averages. To illustrate, a tort rule that assigns liability to drivers instead of pedestrians in order to redistribute

income would rely upon the crude average that drivers are wealthier than pedestrians. Fourth, reshuffling legal rights may not have the anticipated distributive effects. To illustrate, increased tort liability for large corporations may cause prices to rise for consumers, rather than causing stock prices to fall for owners.<sup>15</sup>

## **V. Meat**

These three basic concepts--maximization, equilibrium, and efficiency--are fundamental to explaining behavior in institutions that coordinate interactions among people. Nevertheless, critics of economic analysis doubt that these concepts can explain law. They ask, "Isn't it better to describe psychology than to prescribe rationality?" "Why stress equilibria instead of change?" "Isn't the aim of law justice, not efficiency?"

Quine observed that the core of a science consists of nearly tautological propositions.<sup>16</sup> A tautology, such as "All husbands are married," describes a convention about how to speak and reason. The core of economics is a formal mechanism of reasoning, with sufficient flexibility to generate alternative models. The alternative models may generate contradictory predictions. Testing contradictory predictions against facts confirms one model and disconfirms another. However, the core of economics, which generated both models, is not confirmed or disconfirmed.

Economists yawn when psychologists announce empirical proof that people do not compute their marginal costs and benefits. Like Quine, most economists believe that prediction occurs on the periphery of a science, not in the core. Critics who imagine that their observations disconfirm the core of economics have confused formality and reality. The core of economics should be praised or criticized according to its power to generate predictive models. The relevant question is whether more powerful models come from describing psychology rather than prescribing rationality, or stressing change rather than equilibria, or postulating that law aims for justice rather than efficiency.

Names that refer to some objects can be understood by pointing to them, such as saying "cat" and pointing to a cat. Other concepts, like "democracy," "melody," or "square root" cannot be conveyed by ostensive definition. Instead, mastering these terms typically involves practicing their use, especially mathematical terms like "square root."

Similarly, you cannot fully understand what economists mean by “maximization” until you work through some maximizing models. Critics who have never worked through the models typically underestimate the flexibility of the core concepts of economics, rather like a person who knows the dictionary definition of a French word but cannot speak French. Before attacking the core concepts of economic analysis, critics should go through the intermediate step of understanding them.

Above the core and below the skin of an apple lies its meat. The meat of economics concerns *what* people maximize (self-interest, profits, votes, etc.), the *form* of the equilibrium (perfect competition, monopoly, sub-game perfect, stability, etc.), and the *type* of efficiency (Paretian, Kaldor-Hicks, utilitarian). In my opinion, the “meat” of economics lacks some essential nutrients to nourish social science.

Economists typically assume that a person pursues his self-interest as he perceives it. The pursuit of self-interest presupposes personal goals which express values. A person acquires values by internalizing them. However, economics offers no account of internalization. Economists acknowledge this fact by saying that they take individual values as “a given” or “exogenous,” where psychology takes individual values as “endogenous.”

A person’s values can be arranged according to their centrality to him. The most central values are part of the person’s definition of himself. Definitive values are cited when someone fully answers the question, “Who are you?” Economics assumes that people maximize self-interest, but economics offers no account of how a person becomes the self in which he is interested.

The absence of a theory of internalized values keeps economics isolated from developmental psychology. The absence of such a theory also keeps economics from comprehending some phenomena that are central to understanding law. In the next section, I suggest how to begin correcting this deficiency in economics.

## **VI. Thick Self-Interest<sup>17</sup>**

Max Weber argued that Protestant Christians regard occupational choice as a religious calling, which causes people to internalize occupational roles. Internalization of

occupational roles increases the dedication and creativity with which people pursue business goals. Dedication and creativity enable people to cooperate together in large organizations that apply technical knowledge and achieve scale economies. According to Weber, the Protestant ethic brought the discipline of the monastery into business practice, which perfected instrumental rationality as a mode of behavior and created the industrial revolution.<sup>18</sup>

I restate Weber's claims in the language of modern economics. The need for many people to cooperate in a complex economy creates problems of information and motivation. For example, in a large organization that applies science to production, each employee works under the direction of others and gets paid a fraction of the value that he cooperates in producing. The "agency problem" is to design organizations and contracts to elicit effort and creativity from such workers. Eliciting effort and creativity requires aligning the self-interest of agents with the principal's interests. But, the narrow self-interest of agents never aligns perfectly with the principal's interests. The agency problems become manageable in modern economies because people internalize occupational roles, which broadens their self-interest. When subordinates internalize occupational roles, they require less monitoring by superiors. Less monitoring lowers the transaction costs of contracting and managing hierarchies. Thus internalization of occupational roles is the ultimate form of decentralization, which prevents the constraints of information and motivation from strangling the modern economy.

Internalizing an occupational role involves accepting the norms of an occupation so intimately that they enter the individual's self-conception. This fact should be familiar to law students. The first year of law school is often emotional, not merely difficult, because it involves socialization, not just learning. Students grapple with their own feelings to decide whether they want to answer the question, "Who are you?," by replying, "I am a lawyer." Internalizing the role involves the elaboration of self-conception for many students.

As soon as an individual takes norms into his self-conception, he distinguishes two kinds of self-interest. The simplest self-interest, which I call "thin self-interest," looks only to objective payoffs in wealth or power. The more complex self-interest,

which I call “thick self-interest,” modifies objective payoffs to encompass the subjective value of morality. For example, many lawyers pursue power and wealth through their profession. In addition, some people aspire to be “good lawyers,” meaning people whose work embodies the virtues of the legal profession. The virtues of the profession include both its ethical standards and its technical craft.

Internalizing a role “thickens” self-interest to include the obligations and goals of an occupation. Thus the best workers *express themselves* by showing who they are through their work. Their work shows who they are by reflecting what they have internalized. Self-expressive acts have meaning. The actor’s goals and feelings are the act’s meanings for him. Thus a theory of thick self-interest must be both a theory of behavior and a theory of meaning.

Economists often describe their subject as a “behavioral science.” In the past, some people thought that all of social science was behavioral. For example, Skinner defined psychology as the science of behavior, and the Palo Alto think tank for social science is named “The Institute for the Advanced Study of the Behavioral Sciences.” Behavioral science concerns meaning indirectly. In practice, economists have nothing to say about self-expression, even though self-expression through work affects efficiency. Other social sciences have recently returned to interpretivism and hermeneutics. The thick self bridges behavioral theory and theories of meaning. The bridge is formed by the fact that self-expression involves behavior whose meaning defines a person’s central interests.

## **VII. Rational v. Reasonable**

I offer two examples from law where explanation requires thick self-interest. To create an independent judiciary, judges receive life tenure, fixed salaries, unpredictable promotion prospects, and the duty to recuse themselves in cases affecting their material interests. The independence of the judiciary prevents judges from pursuing money, power, or other aspects of narrow self-interest. Consequently, economists ask, “What do independent judges maximize?” As long as economics focuses upon thin self-interest, this question remains unanswerable. Instead of maximizing thin self-interest, independent

judges typically express their own political and legal vision through their decisions.<sup>19</sup>

Their behavior cannot be explained without a thick theory of a person's interests.

For the second example, consider voting. Most voters have material stakes in elections, such as taxes, public goods, regulatory protections or reliefs, and the spoils of office. The expected benefit of voting equals the voter's stakes in the election multiplied by the probability that her vote will tip the election. As the number of voters increases, however, the probability that any one person's vote will influence the outcome of the election approaches zero. Consequently, the expected benefit of voting approaches zero. The opportunity cost of voting equals the value of the required time and effort. Unlike the expected benefit of voting, its cost bears little or no relationship to the size of the jurisdiction. Therefore, a theory based upon narrow self-interest would predict much lower rates of voter turn-out in large jurisdictions than actually occurs in democracies.<sup>20</sup> In reality, citizens vote in such elections to express their political preferences, not to gain material advantage.<sup>21</sup> Consequently, the explanation of voting in large jurisdictions requires a thick theory of a person's interests.

The difference between thin and thick self-interest explains a fundamental tension between economics and law. The ideal economic decision maker is "perfectly rational," which means utterly instrumental in pursuing explicit ends. The ideal legal decision maker is "completely reasonable," which means that he has internalized social morality. The rational actor's self-conception is thin, whereas the reasonable actor's self-conception is thick. Without a thick conception of self-interest, economic analysis cannot answer important legal questions about reasonableness. To illustrate, adjudicating the reasonableness of professional norms involves weighing the benefits and costs of internalization. How far should a fiduciary go in subordinating his interest to the beneficiary's? As another example, most crimes cannot be committed accidentally or by the insane. These crimes presuppose criminal intent or "mens rea." To have criminal intent, the actor must know the difference between right and wrong, and choose to do wrong. The contribution of economics to understanding this problem will remain modest until decision theory encompasses psychological conflict between right and wrong. [put in conclusion with obligator]

## VIII. Endogenous Preferences

Psychologists have extensively studied the internalization of norms. Piaget, Kohlberg, and others sketched stages in the development of moral reasoning among children.<sup>22</sup> According to their theories, a child perfects the ability to internalize norms as she acquires a capacity for abstract reasoning. Their research makes internalization sound cool and rational. In contrast, “depth psychology” often traces internalization of morality to irrational processes that are hot and inchoate. According to these theories, internalization of morality ingrains new impulses in a child through emotional experiences. An example is Freud’s theory of morality as the “ghost in the nursery,” meaning the repressed memory of parental punishments.<sup>23</sup>

Both types of internalization—accepting reasons and ingraining impulses—create new motives, which can tip the individual’s motivational balance. Economic models often view motivation as a calculus of psychological benefits and costs. Internalization can change the sign of the net psychological benefits attached to an act. For example, internalization of morality creates subjective costs to non-cooperation that can shift the dominant strategy in a game from non-cooperation to cooperation.<sup>24</sup>

When self-interest thickens, conflicts arise between thin and thick selves. For example, a lawyer may feel torn between being a “good lawyer” and getting rich by shady means. Internal conflict, which is the subject of much psychology and moral philosophy, has only recently found a place in economic models.<sup>25</sup> Economists usually assume that an actor chooses by ordering alternatives from better to worse. To model internal conflict, think of the actor as drawing from a probability distribution over different orderings of the alternatives. One ordering might represent the thin self, the other ordering might represent the thick self, and the probability distribution might be determined by the actor’s strength of will.<sup>26</sup>

To illustrate, consider a model of adolescent crime. Adolescents have volatile emotions. In some moods, adolescents cannot give much weight to the future costs of present behavior. In such a mood, an adolescent who would ordinarily resist an opportunity to steal might succumb to it. In economic terms, the subjective discount rate for time fluctuates in adolescents and they commit crimes when they apply a very high

discount rate. Maturation involves reducing the fluctuation in moods, or reducing the variance in the distribution from which the subjective discount rate is drawn.

Internalization of norms changes preferences and decisively affects behavior. However, economic theory cannot explain internalization or predict its occurrence. Filling this gap requires a theory of endogenous preferences linking economics and developmental psychology. A theory of endogenous preferences requires the expansion of decision theory to encompass the choice of who to become.

### **IX. Evolution of Norms**

Having discussed the internalization of norms by individuals, I will now discuss the evolution of norms in communities. People develop relationships with each other through repeated interactions in a community, and norms arise to coordinate their interaction. The modern economy creates many specialized business communities, which may form around a technology, such as computer software, a body of knowledge, such as accounting, or a particular product, such as credit cards. The formality of the norms developed in these communities varies from one business to another. Self-regulating professions, like law and accounting, and formal networks like Visa, promulgate their own rules. Voluntary associations, like the Association of Home Appliance Manufacturers, issue guidelines. Informal networks, such as the computer software manufacturers, have inchoate ethical standards.

Sociologists sometimes use “norm” to mean “typical” or “modal” behavior, but I use the term to mean “obligatory behavior.” For a community to have a customary norm, the norm must achieve a minimum level of control over the behavior of its members. Otherwise, the community does not have the customary norm in question. A customary norm affects behavior when people internalize it. Internalizing a norm changes preferences in ways that I described as the “thickening” of self-interest. Consequently, a customary norm emerges in a community when it is internalized by enough of its members.

Why do some games evoke a sense of obligation in the players concerning the strategies that they follow? I can only sketch an answer here.<sup>27</sup> Imagine a sequential

game involving two players and two moves. The first player invests or does not invest. Subsequently, the second player cooperates or appropriates. The first player will not invest unless he believes that the second player will cooperate. Therefore, the second player wants the first player to believe that he will cooperate, regardless of what he actually plans to do. A signal represents a player as following a particular strategy. Consequently, we say that the second player endeavors to “signal cooperation.”

A player who represents himself as following one strategy may actually follow another. Specifically, a player who represents himself as cooperating may actually appropriate.

Now embed this two-person game in a market with many participants. The participants consist of many “first players” who want to invest, and many “second players” who want to find an investor. All second players endeavor to signal cooperation. Although everyone transmits the same signal, not everyone follows the same strategy. In a “mixed equilibrium,” some players cooperate and others appropriate. The people who cooperate form enduring relationships and secure a modest payoff in most rounds of the game. The people who appropriate form temporary relationships (the investors exit immediately after appropriation) and secure a large payoff in a few rounds of the game. In a mixed equilibrium, both strategies earn the same average rate of return.<sup>28</sup>

More cooperation in the investment game will elicit more investment, which is productive and benefits all the players. Such external benefits, which all players enjoy, can be called “local public goods.” Thus the investment game has an equilibrium in which the players signal that they will supply a local public good. The community benefits from local public goods, so people concerned with its welfare will want to increase the supply. These people will say that everyone ought to cooperate. Saying that everyone ought to cooperate, including yourself, will become part of the way that a person signals cooperation. As explained, everyone signals cooperation, including the appropriators. Consequently, a consensus will arise in the community that people who play the game ought to follow a cooperative strategy. This consensus will convince some people to internalize the obligation and inculcate it in young people.

The proportion of people who internalize the norm affects the proportion of people who pursue each strategy in a mixed equilibrium. More internalization causes more cooperation. (The actual causal mechanism is counter-intuitive.<sup>29</sup>) A mixed equilibrium sustained by internalization of a norm is what I meant earlier by the phrase “value equilibrium.” A value equilibrium differs from equilibria in standard games by the fact that preferences can vary. In a value equilibrium, no one’s preferences change.

When a large proportion of people in a community internalize an obligation, I say that a social norm exists in the community. Generalizing, I formulate the *alignment theorem*: *A social norm will evolve in a community when private incentives for signaling align with a local public good.*

The alignment theorem generates predictions concerning the evolution of norms, but I cannot discuss them here.<sup>30</sup> Instead, I turn to connections between this theorem and sociology. Durkheim discussed how the division of labor binds people together and enables them to achieve economies of scale and benefits of specialization. Levi-Strauss applied Durkheim’s ideas of solidarity to tribes, which create cross-cutting and overlapping systems of kinship in order to expand the scope of cooperation among people.<sup>31</sup> These ideas can be elucidated using game theory. Kinship provides a framework for repeated interaction corresponding to a super-game. Super-games enable cooperation, such as solving the prisoner’s dilemma, whereas the corresponding one-shot game has a non-cooperative solution. The possibility of such solutions increase in a value equilibrium, where the players internalize norms.

In perfectly competitive markets, no one has the power to affect prices. Consequently, economic theories of perfect competition ignore power. Sociologists who study power cannot gain much from models of perfect competition. In contrast, game theory predicts how people act when they have the power to influence each other. A tension sometimes develops between the competitive market approach and game theory as economists increasingly analyze organizations and institutions. Tension develops because the competitive market approach emphasizes the optimality of private interaction, whereas game theory sometimes finds multiple, sub-optimal equilibria. Multiple equilibria inject arbitrariness into outcomes, and sub-optimal equilibria invite

intervention by state authorities. To illustrate, the corporation can be regarded as a nexus of perfectly competitive contracts, or the corporation can be regarded as a principal-agent game with market failures.<sup>32</sup>

The “new utilitarians” like Robert Ellickson see social norms as tending towards efficiency in small groups.<sup>33</sup> In contrast, many social critics see social norms as tending towards the subordination of one group by another, such as the subordination of women by men, or the subordination of black by whites. Rather than being based upon pure power, domination typically requires support from social norms. For example, the domination of women by men probably requires most men and some women to believe in the rightness of patriarchy.

To see why, consider the economic explanation of the instability of cartels. Cartels are unstable because individual members typically gain an advantage from defecting. For example, all members of OPEC gained an advantage at the expense of consumers from adopting a uniform, cartel price, but each individual member also gained an advantage from secretly discounting the price of oil. Secret selling below the cartel price contributed to the collapse of the OPEC cartel. A similar logic applies to social groups that act as cartels. To illustrate, members of an ethnic group who work as electricians can benefit by excluding others from the electricians union and reducing competition, thus driving up their wages. Once the union wage inflates artificially, everyone inside or outside the ethnic group has an incentive to hire non-union electricians. In general, the members of a social group can increase their wages by employment discrimination against competitors, but everyone who hires labor, including the members of the discriminatory group, gain from hiring the victims of discrimination.

Given the individual gain from non-discrimination, discriminatory cartels typically need to sanction members to prevent “cheating” and sustain discriminatory practices. Sanctions may be centralized by enacting discriminatory laws backed by state power. However, if the state refuses to lend its power to discriminatory practices, the sanctions needed to sustain discrimination must be decentralized. The evolution of discriminatory social norms provides decentralized sanctions for people who fail to conform to discriminatory practices.

In general, the extension of game theory to explain social subordination requires using the concept of a value equilibrium. The account of norms developed here can help explain how the dominant social group can stabilize itself through the evolution of discriminatory social norms.<sup>34</sup> According to the alignment theory, sustaining discriminatory social practices requires the group dominating ethical debate and moral education to create a consensus about the public good. The consensus is sustained when the game has a pure signaling equilibrium. In order for enough people to internalize an obligation so that rises to the level of a social norm, its violation must be sufficiently public so that violators can be observed and sanctioned. For example, sustaining discriminatory social norms in employment may require easy observation of their violation, as when minorities work publicly in high status jobs.

## **X. Conclusion**

I have explained that the economic analysis of law succeeded remarkably because price theory provided the first scientific predictions of how people respond to changes in legal sanctions. This success was built, however, upon a fundamental misunderstanding of morality.<sup>35</sup> Sanctions typically attach to norms. The internalization of norms changes behavior by changing a person's perceived self-interest. Economics has no account of the internalization of norms. Indeed, economists have advanced the study of prices by assuming that preferences are fixed and unalterable, thus missing the point about morality. Modern economies rely upon the internalization of norms, especially through socialization into occupational roles, in order to decentralizes law and solve agency problems.

I have suggested how to thicken the concept of self-interest in order to encompass the internalization of norms and the endogeneity of goals. Doing so will bring together economics and developmental psychology. I have also suggested how to develop a theory of the evolution of norms based upon the concept of a value equilibrium . Doing so will bring together economics and some traditions in sociology. In unifying social theory, the concepts of maximization and equilibrium should be retained at the core. Beyond the core lies the "meat" of specific disciplines, which should remain specialized

and distinctive. In general, the unification of social science requires the separate disciplines to abandon their sovereignty, but not their identity. I offer a vision of unity, not based upon imperialism as in the British empire and not based upon separate sovereignties as in the British Commonwealth, but rather based upon common central principles, as in the European Community.

## Citations

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<sup>1</sup> This paper was the inaugural lecture for the Herman F. Selvin Chair, Berkeley Law School, 13 October 1994. An earlier version of this lecture, entitled "Law and Unified Social Theory," was presented at the 25 anniversary celebration of the founding of the Socio-Legal Studies Center, Wolfson College, Oxford University, 19 December 1993.

<sup>2</sup> Definition: A conservative is a liberal with a mortgage.

<sup>3</sup> This section is based upon Chapter 1 of Robert D. Cooter and Tom Ulen. *Law and Economics* (2nd ed. New York: Addison Wesley, 1996).

<sup>4</sup> William Landes, "The influence of Economics on Law: A Quantitative Study," *J. Law & Economics* 36 (1993): 385-424.

<sup>5</sup> R. Coase, "The Problem of Social Cost," 3 Journal of Law & Economics 1 (1960).

<sup>6</sup> Douglas Baird, Robert Gertner, and Randall Picker, *Game Theory and the Law* (Cambridge, Mass.: Harvard University Press, 1994).

<sup>7</sup> This loose talk is hard to document. The study that I mentioned earlier found some indication of a slowing in the exponential growth of citations to articles applying economics to law. See William M. Landes and Richard Posner, *op. cit.* at footnote 4.

<sup>8</sup> R. C. Ellickson, "Bringing Culture and Human Frailty To Rational Actors: A Critique of Classical Law-and-Economics," 65 Chicago-Kent Law Review 23-55 (1989).

<sup>9</sup> Hence the joke: Economist arrives at her office. A Colleague asks, "How's your husband." She replies, "Compared to what?"

<sup>10</sup> Herbert Simon won the Nobel prize for developing these ideas in his "satisficing model." See H. A. Simon, *Models of Man* (New York, 1957).

<sup>11</sup> The most successful rival to "maximizing" is "satisficing," which is widely used informally, but no mathematization of satisficing has ever won the allegiance of economists.

<sup>12</sup> Economists sometimes describe first order responsiveness as "zero conjectural variations." See the Cournot duopoly model as developed in any advanced microeconomics text, such as David M. Kreps, *A Course in Microeconomic Theory* (Princeton, New Jersey: Princeton University Press, 1990) at pages 326-328.

<sup>13</sup> For example, in the von Stackleberg model of duopoly, the the leader anticipates the follower's response, but not vice versa. See any advanced microeconomics text, such as David M. Kreps, *A Course in Microeconomic Theory* (Princeton, New Jersey: Princeton University Press, 1990) at pages 328-330.

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<sup>14</sup> The analogy between a society and an organism was especially developed by Herbert Spencer. For a discussion relevant to this lecture, see Neil Smelser, The Sociology of Economic Life, (Prentice Hall, Englewood Cliffs, 1965) pages 12-14.

<sup>15</sup>For a model of why the state should not pursue distributional goals through civil law, see Louis Kaplow and Steven Shavell, "Why the legal system is less efficient than the income tax in redistributing income." *J. Legal Studies* 23 (1994): 667-681.

<sup>16</sup> Willard von Quine, "Two Dogmas of Empiricism," in *From a Logical Point of View* (Cambridge, Mass.: Harvard University Press, 1953), pages 20-46.

<sup>17</sup> This section is based upon my lecture "Prices and Obligations," Seminar D'Actualitat Juredica: Dret, Economia I Empresa Juridica," Justice Department of Catalonia, Barcelona, Spain, 17 March, 1994.

<sup>18</sup>Max Weber, The Protestant Ethic and the Spirit of Capitalism (tr.Talcott Parsons, New York, Scribner, 2nd ed., 1976).

<sup>19</sup> Richard Posner, "What Do Judges Maximize? (The Same Thing Everybody Else Does)," 30 *Supreme Court Economics Review* 1 (1993).

<sup>20</sup> For a discussion of this problem, see Richard L. Hasen, "Voting Without Law?" 144 *University of Pennsylvania Law Rev.* 2135-2179 (1996).

<sup>21</sup> Geoffrey Brennan and Loren Lomasky, *The Pure Theory of Electoral Preference* (Cambridge, England: Cambridge University Press, 1993).

<sup>22</sup>Lawrence Kohlberg, "Moral Stages and Moralization: The Cognitive-Developmental Approach," Moral Development and Behavior: Theory, Research, and Social Issues (New York, Holt, Rinehart and Winston, 1976), ed. Thomas Lickona, pages 31-53; "Stage and Sequence: The Cognitive-Development Approach to Socialization," in D.A. Goslin, ed. Handbook of Socialization Theory and Research (Chicago, Rand McNally, 1969); L. Kohlberg, The Philosophy of Moral Development: Moral Stages and the Idea of Justice (San Francisco, Harper & Row, 1981); "Appendix. The Six Stages of Moral Judgment," The Philosophy of Moral Development: Essays on Moral Development, Volume I (1981), 409-412. Flaws in Kohlberg's approach have generated much criticism from feminists, notably Carol Gilligan, In a Different Voice: The Psychology of Women's Development (Cambridge, Mass., Harvard U.P., 1982), page 8 and pages 16-17.

<sup>23</sup>In Freud's account, morality is the repressed memory of punishment and threats from the father. In technical terms, the super-ego emerges when the child represses his Oedipal fears. See Sigmund Freud, The Ego and the Id (New York, Norton, 1962), trans. Joan Riviere, revised and edited by James Strachey. A clear discussion of these ideas is provided by Richard Wollheim in "The Last Phase," Sigmund Freud (Viking Press, New York, 1971), Chapter 7.

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<sup>24</sup>See Robert Cooter, "Structural Adjudication and the New Law Merchant: A Model of Decentralized Law," 14 International Review of Law and Economics 215-231 (1994).

<sup>25</sup> The pioneer is Thomas Schelling. See "Self-Command in Practice, in Policy, and in a Theory of Rational Choice," *American Economic Review* 74 (1984), pages 1-11; "Enforcing Rules on Oneself." *J. Law, Economics, and Organizations* 1 (1985), pages 357-374; and "Against Backsliding," in *Development, Democracy, and the Art of Trespassing* (1986), edited by Alejandro Foxley, Michael S. McPherson and Guillermo O'Donnell, pages 233-238.

<sup>26</sup>A model with citations is found in Robert Cooter, "Lapses, Conflict, and Akrasia in Torts and Crimes: Towards An Economic Theory of the Will," 11 International Review of Law and Economics 149-164 (1991) .

<sup>27</sup>For a more complete development of this game, see Robert Cooter, op. Cit. at footnote 24.

<sup>28</sup>By definition, an evolutionary equilibrium exists when all strategies actively played earn the same average rate of return. A review of the mathematics of evolutionary theories in economics can be found in Abhijit Bannerjee and Jorgen W. Weibull. "Evolution and Rationality: Some Recent Game-Theoretic Results," in *Economics in a Changing World* (New York: St. Martins Press, 1996), edited by B. Allen.

<sup>29</sup> Internalization of a norm increases the amount of cooperation by overcoming the tendency of players to "free ride" on punishing non-cooperators. See Cooter, op. Cit. at footnote 24.

<sup>30</sup>. See Cooter, op. Cit. at footnote 24. An interesting fact about the alignment theorem concerns how the mechanism by which internalizing a norm increases the supply of local public goods. People who internalize a norm typically cause the equilibrium to shift so that more people conform to it. However, the equilibrium does not shift because the person who internalizes the norm conforms to it. In equilibrium, the strategy of conforming to the norm receives the same expected payoff as the strategy of violating it. Consequently, a person who stops violating the norm and starts conforming to it will cause someone else to stop conforming and start violating. The net effect is nil. Rather, the equilibrium shifts because the individual who internalizes a norm typically becomes willing to enforce it on others. A person who starts punishing other people who violate the norm will cause the expected payoff to fall for violators. To restore an equal expected rate of return to violators and conformers, the number of violators must fall.

<sup>31</sup> A good review of how Levi-Strauss extended Durkheimian ideas of social solidarity to kinship is in M. Harris, The Rise of Anthropological Theory (New York, 1968).

<sup>32</sup> To contrast these two theories, see the articles in Lucian Arye Bebchuk (ed.), Corporate Law and Economic Analysis (Cambridge University Press, 1990). For example, contrast F. Easterbrook and Daniel R. Fischel, "The corporate contract," pp. 182-215, with Henry Hansmann, "Ownership of the firm," pp. 281-313.

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<sup>33</sup> R. C. Ellickson, Order Without Law: How Neighbors Settle Disputes (Harvard U.P., Cambridge, Mass., 1991).

<sup>34</sup> See Cooter, "Market Affirmative Action, 31 San Diego Law Review 133-168 (1994).

<sup>35</sup> I explored the difference between prices and sanctions in an early paper, which found a profound difference quite distinct from the internalization of norms that I now emphasize. See "Prices and Sanctions", 84 Columbia Law Review 1523 (1984); reprinted in Jules Coleman and Jeffrey Lange, eds., Law and Economics, Volume 1 (The International Library of Essays in Law and Legal Theory, New York University Press, 1992).