

Law, Selfishness, and Signals: An Expansion of Posner's Signaling Theory of Social Norms

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Introduction

There are two warring camps that stand perpetually opposed to each other in the study of social norms: theorists who deploy a strictly rational choice model and their critics in the law and society movement who accuse them of pointedly blotting out the obvious in their pursuit of methodological purity.¹ This fundamental divide hinges on their views regarding what Richard McAdams refers to as normative motivations,² and what I will refer to generally as internalization (for the sake of simplicity I use a broad definition: the term internalization here means the underlying sense of universal obligation or duty to follow the norm—the “ought to” implicit in the norm).³ The rational-actor vision of human behavior where individuals seek only to maximize their self-interest seems at odds with the process of internalization.⁴

Eric Posner's Signaling theory of norms lies squarely in this rational choice camp. It has now been ten years since Posner first proposed his signaling theory.⁵ It is a bold theory that sparked a flurry of debate in the law and norms literature, some praise, mostly criticism. The core of Posner's theory is that individuals adopt social norms in order to signal that they have a low discount rate, and are therefore good long-term cooperative partners—in short, to show they are team players.⁶ A

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1. Robert Ellickson writes, “... the law-and-economics scholars believe that the law-and-society group is deficient in both sophistication and rigor, and the law-and-society scholars believe that the law-and-economics theorists are not only out of touch with reality but also short on humanity.” R. C. Ellickson, *Order Without Law* (Cambridge, MA: Harvard University Press, 1991) at 7.
2. Richard H. McAdams, “Signaling Discount Rates: Law, Norms, and Economic Methodology” (2001) 110 *Yale L.J.* 625 at 681.
3. As Posner says, “... people bound by [norms] feel an emotional or psychological compulsion to obey the norms; norms have moral force.” Eric A. Posner, “Law, Economics, and Inefficient Norms” (1996) 144 *U. Pa. L. Rev.* 1697 at 1709. The literature sometimes makes a distinction with regard to what I am here referring to broadly as internalization. For instance, Peter Huang speaks of emotions, specifically the moralistic kind. Peter H. Huang, “Reasons Within Passions: Affects and Attributions in Property Rights Bargaining” (2000) 79 *Or. L. Rev.* 435; Peter Huang & Ho-Mou Wu, “More Order Without More Law: A Theory of Social Norms and Organizational Cultures” (1994) 10 *J. L. Econ. & Org.* 390. McAdams cites the importance of the psychological need for esteem from others in his *Esteem Theory of Norms*. See Richard H. McAdams, “The Origin, Development, and Regulation of Norms” (1997) 96 *Mich. L. Rev.* 338 at 355-57.
4. “The rational-actor model has two basic underlying tenets. It assumes, first, that each individual pursues self-interested goals and, second, that each individual rationally chooses among various means for achieving those goals.” Ellickson, *supra* note 1 at 156.
5. Eric A. Posner, *Law and Social Norms* (Cambridge, MA: Harvard University Press, 2000).
6. Posner, *supra* note 5 at 24-25.

person with a low discount rate values the future more than the present; they are willing to forgo short-term gain to reap the rewards of sustained cooperation. Normative behavior, be it wearing a tie on a hot day, keeping one's lawn green, or voting, is costly in some respect. There is some transaction cost involved. This cost is what turns norms into signals. When an individual conforms to such behaviors, they signal their discount rate—the greater the cost, the lower the discount rate. It is in a sense a down payment upon one's relationship, communicating one's commitment. But in this world of opportunists and social charlatans, who can you really trust? Posner explains a norm is a reliable signal insofar as high-discount rate types are simply not willing to make the investment, and therefore will not mimic the signal. Suppose I can gain one dollar by cheating you at the end of one day, or 100 dollars by cooperating with you for a week, if I then perform an action upfront that costs me 7 dollars, this reliably signals my willingness to cooperate more long-term. This will create a separating equilibrium, allowing cooperative types to identify one another; however, when the signal can be mimicked cheaply it will create a pooling equilibrium.⁷ Posner argues that what we call "norms" are simply the labels we attach to the behavioral regularities of individuals emitting these signals.⁸ The explanatory strength of Posner's thesis is enormous; all norms can be reduced to signals. However, the theory suffers from a fundamental limitation—its insistence upon a purely rational choice model.⁹ The aim of this paper is to radically expand Posner's theory by incorporating internalization into his model.

Thus, my first task is to show how internalization is in actual fact a product of the signaling game Posner describes. In doing so, it is my objective to bridge the conceptual fissure between the rational choice and law and society factions. Indeed, as we will see, it is vital to the theory of norms I will construct here to first bring normative motivations, so marginalized by rational choice, back in from the cold. To explain norms, we must explain their defining quality: internalization. In fact, the question of internalization is frankly far more interesting, because it relates implicitly to our basic sense of justice—that the law is normative and just. Here we have the seeds of morality.¹⁰ That internalization is hardly found in animals apart from humans¹¹ seems to lend scientific credence to the notion that it is our capacity for law that separates us from "the animals."

If our normative model can be judged to be a true reflection of how norms actually arise and function in the real world, the reality of internalization must be fully incorporated into the model. But how can internalization and Posner's model be reconciled? Posner's theory can be modified so it can be used to explain the process of internalization. This is what I set out to do in this paper, positing a broader model,

7. *Ibid.* at 19-21.

8. *Ibid.* at 8.

9. *Ibid.* at 46.

10. Indeed, internalization lies embedded at the heart of the natural law position, and it in fact explains the persistence of the embattled belief within jurisprudential circles.

11. Herbert Gintis, "The Hitchhiker's Guide to Altruism: Gene-culture Coevolution, and the Internalization of Norms" (2003) 220 *J. Theor. Biol.* 407 at 417; see also Mark R. Leary, "Digging Deeper: The Fundamental Nature of 'Self-Conscious' Emotions" (2004) 15 *Psych. Inquiry* 129 at 129.

what I call the Expanded Signaling Model of Norms (ESM). I do this primarily by tethering Posner's theory to an evolutionary model. My thesis is that evolution has conditioned an instinctual proficiency in working with norms as signals in whatever form they take—a proficiency that manifests in an emotional context. This trait is what we call internalization. Internalization enhances the individual's ability to instinctively play Posner's signaling game; it confers a crucial survival advantage and was thus selected for. The signaling game is instrumental to the ability to form sustained cooperative relationships, and therefore to individual survival. Thus, from an evolutionary perspective, individuals who internalized the entire process, and as a result became more adept at playing the game, were at an advantage. The basic supposition I am advancing here is that the internalization of discount rate signals is an adaptive quality. The idea that internalization is evolutionarily conditioned is not new.¹² However, linking this explicitly to Posner's theory of discount rate signals is, and doing so offers tremendous explanatory potential.

Given that internalization is fitness enhancing, there is no reason to believe that such a trait would not be subject to selective pressures; like all traits, it too is subject to the inescapable verity of natural selection. Natural selection bridges the divide between rational choice and internalization, allowing for the coexistence of both. At times a rational calculus is deployed, at others, indeed the vast majority of the time, internalized responses predominate, allowing the entire process to play out in an unconscious manner. Indeed, rational calculation represents only one small sliver of normative behavior. For the most part, norm adoption precedes rational calculation; conformity is mostly thoughtless and automatic, occurring chiefly on an unconscious level. In a sense, the claim made here is a hybrid of the two positions: the adoption of norms is at times indeed a rational choice, but for the most part, the process unfolds reflexively in the mind of *Homo economicus*. And when it does so, it is no less "rational" from the point of view of Posner's signaling theory—it is in fact likely more efficient. Granted an experienced hiker might make the calculated decision to drink in order to stave off dehydration; but we cannot ignore the hiker's feeling of thirst. She may at certain moments consciously choose to drink, but the majority of the time thirst will serve as her governing motivation. When *Homo economicus* responds in this manner, it redirects our attention towards, if you will, a deeper "rationality" implicit in our social evolution.

Jon Elster asserts that norms possess a compulsive character that cannot be explained in purely rational terms. The assumption of instrumental rationality, he argues, is simply unable to provide a coherent explanation of social order.¹³ Thus, he concludes, "As far as the explanation of norms is concerned, rational choice theory has nothing to offer."¹⁴ This is not true; rational choice has much to offer,

12. Leary, *ibid.* ("Since Darwin . . . all theories of emotion have assumed that the capacity for emotional experience evolved because it had adaptive value in helping organisms deal with recurrent challenges and opportunities in their physical and social environments." [footnotes omitted]).

13. John Scott, "Rational Choice Theory" in G. Browning, A. Halcli & F. Webster, eds., *Understanding Contemporary Society: Theories of the Present* (London: Sage Publications, 2000) 126 at 133.

14. Scott, *ibid.*

although not at all in the way it envisions. The signaling game has a pure economic basis. The process of internalization is thus perfect economic rationality expressed through the winnowing process of natural selection. Indeed, in a sense, the rational choice claim that all social action is instrumental stands—a form of individual rationality is indeed the basis for internalization. Moreover, as it relates to social norms, the basic rational choice assumption of methodological individualism—that complex social behavior can be explained in terms of elementary individual actions—still holds.¹⁵ Indeed, there is a cool and predictable rationality that underpins the emotional chaos of internalization, and this can be of great use.

For our purposes it is very important that Posner's entire model translate into the realm of internalization, as it is here that the entirety of this signaling game can play out in a reflexive manner. Doing so maintains the explanatory strength of Posner's approach, while shoring up its reductionist failings. Indeed wedding internalization to Posner's model resolves the major criticisms leveled at his theory. It, in a sense, completes his model. The core of Posner's theory is a powerful one. Posner never argues, however, that signaling is the sole explanation for norms.¹⁶ In responding to his critics (which are many), Posner has attempted to walk back his theory a little, or at least clarify its limitations.¹⁷ However, I wish to do the exact opposite. This paper seeks to expand Posner's model even further. Posner does not believe the signaling game he describes is able to explain all social norms.¹⁸ I part company with Posner in asserting that his signaling game, when it incorporates internalization (as ESM does), can account for the emergence of *all* normative beliefs.¹⁹

Following from the proposition that evolution produces the internalization of the signaling game, I make two addendum claims through the course of this discussion. To successfully tether Posner's theory to an evolution-based explanation, these two sub-claims in fact must be established. First, (1) evolution does not generate the internalization of specific norms; rather, it generates the tendency to internalize any norm that functions as a signal of a discount rate. Second, (2) agents internalize signals commensurate with their individual discount rates. The lower an individual's discount rate, the more prone they are to internalize a given norm. These points will be dealt with in turn.

On one level, the genius of much of the law and norm literature is that it employs a rational choice model to explain the emergence of norms.²⁰ However,

15. For methodological individualism, see Jon Elster, *Nuts and Bolts for the Social Sciences* (Cambridge: Cambridge University Press, 1989) at 13; Posner, *supra* note 5 at 39.

16. Eric A. Posner, "Signaling Model of Social Norms: Further Thoughts" (2002) 36 U. Rich. L. Rev. 465 at 467; see also Posner, *supra* note 5 at ch. 3.

17. *Ibid.*

18. *Ibid.*

19. This is not to deny that some norms may arise due to their inherent survival value, or as solutions to coordination dilemmas—but these norms are nevertheless also co-opted as signals. And their function as signals contributes greatly to their persistence. Not all norms may start off as signals, but all norms end that way. See *infra* notes 103-07 and accompanying text.

20. See Robert C. Ellickson, "The Evolution of Social Norms: A Perspective from the Legal Academy" in Michael Hechter & Karl-Dieter Opp, eds., *Social Norms* (New York: Russell Sage Foundation, 2005) 35 at 36 ("The new norms scholars all hew to a rational-choice model of human

I would submit that this is ultimately its primary flaw. To the extent that the literature discounts the significance of internalization, it is in danger of gross oversimplification. The claim that a rational choice calculus fully governs the decisions of agents complying with norms is a fiction, albeit a useful one. It simply is not true. It is reductionism in its crudest sense.²¹ This trumpeting of rational choice is an understandable attempt to import some of the certainty of economics into a field that unfortunately largely defies such an application.²² Rational choice theory has a certain methodological elegance to it; it is a useful model, but when we speak of normative behavior, it is not a full description of reality. The very essence of a norm is that it is genuinely felt to be right, possessing a certain quasi-ethical sense. As Elster declares, norms have a certain “grip on the mind.”²³ There is no getting around the fact that upon seeing a person cut the line one genuinely feels it is wrong. This indignation is not a rational choice.

This article is divided into three parts. In Part I, after providing a brief overview of the difficulties confronting a purely rational choice approach, and arguing for the necessity of incorporating internalization, I lay out a model of Posner’s theory that employs an evolutionary explanation of internalization. In Part II, I address two substantive questions that arise in the wake of such a model. I first look at why inefficient norms may still be selected for under such a model. In answering this question, I explore the ways this approach can also be used to resolve some key theoretical problems facing sociobiology and evolutionary psychology. I then examine a second question: why not all players evolve an equal predisposition to internalize low discount rate signals. The final conclusion this paper reaches is that applying an evolutionary model to Posner’s signaling theory of norms is not only possible, it in fact greatly expands the explanatory reach of his theory, specifically in that it provides a measure of clarity and predictability regarding how and why norms are internalized—an important insight, as these beliefs form the normative underpinning to law.

I. Internalization: Expanding Posner’s Signaling Game

A. The Puzzle of ‘Irrational’ Norm Compliance

1. Prisoner’s Dilemma

Integral to the discussion of norms is the familiar puzzle of human cooperation. The question being: How is cooperation sustained among hopelessly self-oriented agents? This is especially problematic for theorists who hew to a rational choice perspective.

behavior. This methodological individualism ... supposes that each individual generally is both rational and self-interested.”).

21. Though, admittedly, what I go on to contend below might be accused of being no more than a slightly more nuanced foray into reductionism.

22. Of course, that the rational choice model is entirely safe even within the field of economics is debatable.

23. Jon Elster, “Fairness and Norms” (2006) 73 *Social Research* 365 at 368.

Cooperative ventures are invariably undermined by the persistent stain of self-interest. When certain defection opportunities present themselves and one party is tempted to grab a little more at the direct expense of the other party (aggravated by the fact that one cannot be guaranteed that the other party is not contemplating the very same thing)—defection inevitably emerges as a dominant strategy. The paradigmatic illustration of this conundrum is the prisoner's dilemma, where each prisoner's optimum strategy is to confess at their cohort's expense, no matter what their partner decides to do.²⁴ In the case of Prisoner Dilemma games “played only once, no strategy can invade the strategy of pure defection . . . to defect always is an evolutionarily stable strategy.”²⁵ In an isolated interaction there is no escape from this.²⁶

The well-known solution to this dilemma, as Axelrod famously established, is to simply make the scenario an iterated game.²⁷ If the prisoner's dilemma is repeated, and players value future rounds of cooperation sufficiently, conditional cooperation may not only be sustained, indeed it can flourish. The temptation to defect is lessened considerably by the threat of potential retaliation in later rounds and the loss of benefits derived from future cooperation. Defection provokes defection in kind, whereas cooperation will induce greater cooperation. Depending upon the value the respective players place upon future cooperation, the benefit gleaned from future rounds of interaction can offset any short-term advantage from immediate defection, thus allowing for conditional cooperation to emerge as a possible equilibrium. Repeated interaction is the solution. This is all well and good, however where there is no repeated interaction, it becomes unclear as to why norm-compliance of any kind that is costly and does not provide any benefit to the actor should occur at all.

2. *The Tipping Tourist*

Why, for example, does a tourist in a distant city quietly leave a tip on the table as she leaves unseen from a restaurant to which she plans to never return?²⁸ Or even

24. For those unfamiliar with game theory, McAdams provides a concise summary: “. . . two prisoners, *A* and *B*, are suspected of committing a crime together. If neither confesses, each knows they will each be convicted of a lesser offense and serve (say) three years in prison. The prosecutor then offers each the following deal, and each knows it is offered to the other: If you confess and the other does not, we will let you off with only one year in prison; if the other confesses and you do not, we will punish you with ten years in prison; if you both confess, you both will serve five years in prison. Confessing is the dominant strategy because it is the best strategy no matter what the other prisoner does. From *A*'s perspective, if *B* confesses, *A* is better off confessing and getting five years instead of ten; if *B* does not confess, *A* is better off confessing and getting one year instead of three. The reasoning is the same for *B*.” McAdams, *supra* note 2 at 628; see also Bryan Druzin, “Law Without the State: The Theory of High Engagement and the Emergence of Spontaneous Legal Order within Commercial Systems” (2010) 41 *Geo. J. Int'l L.* 1 at 559, 599-605.

25. Robert Axelrod & William D. Hamilton, “The Evolution of Cooperation” (1981) 211 *Science* 1390 at 1392.

26. George J. Mailath & Larry Samuelson, *Repeated Games and Reputations: Long-Run Relationships* (Oxford: Oxford University Press, 2006).

27. Axelrod & Hamilton, *supra* note 25.

28. Of course the intensity of internalization is another matter: if the tip was fifteen thousand dollars, more people might be inclined to not tip. Murder is deeply internalized, but most would still not murder someone for fifteen thousand dollars. For an interesting discussion of tipping practices in this respect, see Saul Levmore, “Norms as Supplements” (2000) 86 *Va. L. Rev.* 1989 at 1997.

more interesting, why do her friends and fellow tourists chastise her after exiting the restaurant if she fails to leave a tip? What benefit accrues to them through their enforcement of the norm?²⁹ Evidence suggests that individuals in fact frequently enforce norms where they glean no clear benefit, even at considerable personal cost to themselves.³⁰ Laboratory experiments reveal that individuals commonly repay acts of altruism and punish norm violators, even in anonymous one-shot interactions with genetically unrelated strangers.³¹ In fact, even when doing so is clearly against their self-interest, individuals often accept or reject an offer based largely on notions of “fairness.”³² Indeed, the results of behavioral experiments, such as the Dictator and Ultimatum game, “consistently defy the predictions of traditional rational choice models.”³³ This is demonstrated in the Ultimatum game, where two players split a sum of money one time as determined by one of the players.³⁴ The other player can accept or reject the offer. If the player rejects the offer, however, both players receive nothing. Both players are told these rules. If the offeree is a rational maximizer of utility, any offer above zero should suffice for acceptance.³⁵ However, this is not what happens. Offers in one-shot experimental games usually average between 30% and 40% of the total.³⁶ Offers of 20% are in fact rejected about half the time,³⁷ and there is often a clear-cut 50-50 division.³⁸ These are one-shot games where issues of reputation or retribution have no bearing. Even when the stakes are as high as three months of their annual income, players routinely reject offers they consider “unfair.”³⁹

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29. This is the perennial problem for rational choice theorists of a second-order collective action problem—the irrationality of 3rd party norm enforcers willing to pay the cost of sanctioning with no clear individual benefit when they can simply free-ride on others enforcement. For second-order problems, see, e.g., Paul G. Mahoney & Chris. W. Sanchirico, “Norms, Repeated Games, and the Role of Law” (2003) 91 Cal. L. Rev. 1281.
30. Ernst Fehr, Urs Fischbacher & Simon Gächter, “Strong Reciprocity, Human Cooperation, and the Enforcement of Social Norms” (2002) 13 *Human Nature* 1.
31. Ernst Fehr & Joseph Henrich, “Is Strong Reciprocity a Maladaptation?” (2003) Cesifo Working Paper No. 859, 1. For other studies along these lines, see, e.g., E. Fehr & S. Gächter, “Altruistic Punishment in Humans” (2002) 415 *Nature* 137; E. Fehr & S. Gächter, “Reciprocity and Economics: the Economic Implications of Homo Reciprocans” (1998) 42 *Eur. Econ. Rev.* 845; J. Henrich et al., “In Search of Homo Economicus: Behavioral Experiments in 15 Small-Scale Societies” (2001) 91 *Am. Econ. Rev.* 73; K.A. McCabe, J. Rassenti & V.L. Smith, “Reciprocity, Trust, and Payoff Privacy in Extensive Form Bargaining” (1998) 24 *Games Econ. Behav.* 10. The term strong reciprocity has been used to refer to this form of deeply internalized behavior. Fehr et al., *supra* note 30; H. Gintis, “Strong Reciprocity and Human Sociality” (2000) 206 *J. Theor. Biol.* 169.
32. See Richard H. Thaler, *Quasi Rational Economics* (New York: Russell Sage Foundation, 1991).
33. Cristina Bicchieri, *The Grammar of Society: The Nature and Dynamics of Social Norms* (Cambridge: Cambridge University Press, 2006) at 102.
34. W. Guth et al., “An Experimental Analysis of Ultimatum Bargaining” (1982) 3 *J. Economic Behavior and Org.* 367.
35. This is perhaps a good example of where our emotions orchestrate our economic interactions far better than rational calculation. A player must deal with another player whose actions may be governed by emotion differently than a purely rational actor—in this instance, much more generously. Self-destructive acts of vengeance are another good example of this dynamic. Indeed, irrationality (read emotion) often accrues to one’s distinct benefit.
36. Cass R. Sunstein, “Social Norms and Social Roles” (1996) 96 *Colum. L. Rev.* 903 at 904.
37. Bicchieri, *supra* note 33 at 104.
38. Sunstein, *supra* note 36 at 905.
39. L. Cameron, “Raising the Stakes in the Ultimatum Game: Experimental Evidence from Indonesia” (1999) 37 *Economic Inquiry* 47 at 47.

Perhaps even more fascinating is that in experiments where uninterested third parties are allowed to punish players making unfair offers, they often will, even where they must personally bear some moderate cost to do so.⁴⁰

Other research demonstrates that even where cooperation is not an equilibrium outcome, players nevertheless occasionally cooperate in prisoner dilemma type situations.⁴¹ Other games, such as public goods games, the centipede game and others, offer similar findings.⁴² In fact, a great deal of human behavior has been identified which is neither rational nor self-interested.⁴³ Indeed, it is difficult to reconcile a great deal of normative behavior with “a theory that takes as a foundational assumption the principle that people always act in their own self interest, to maximize the satisfaction of their preferences.”⁴⁴ This is not the behavior we would expect for *Homo economicus*.

Many rational choice theorists respond by broadening their model, positing that, “norms are simply arbitrary preferences. Individuals [however] . . . act rationally in relation to these, whatever they may be. If people want to help others and get a sense of satisfaction from doing so, then giving help is an act of rational self-interest.”⁴⁵ While this allows the model to smoothly function, it does little to advance our understanding of why these preferences arise. Indeed, this is a core failure of the standard rational-actor model: the inability to account for why people hold certain preferences over others.⁴⁶ Social norms of “trust and justice that individuals use in their actions have a moral force that runs counter to purely rational

40. Armin Falk, Ernst Fehr & Urs Fischbacher, “Testing Theories of Fairness—Intentions Matter” (2008) 62 *Games and Economic Behavior* 287; see also E. Fehr & U. Fischbacher, *Third Party Punishment and Social Norms* (Zurich, Switzerland: Inst. for Empirical Research in Economics, 2004); J.P. Carpenter, P.H. Matthews & O. Ong’ong’a, “Why Punish? Social Reciprocity and the Enforcement of Prosocial Norms” (2004) 14 *J. Evolutionary Economics* 407.

41. G. Marwell & R.E. Ames, “Economists Free Ride: Does Anyone Else?” (1981) 15 *J. Public Economics* 295; see also Dan M. Kahan, “Trust, Collective Action, and Law” (2001) 81 *B.U.L. Rev.* 333 at 333-34 (citing studies that saw the emergence of cooperation beyond the levels predicted by just concerns for sanctions).

42. See Richard H. Thaler, *The Winner’s Curse: Paradoxes and Anomalies of Economic Life* (Princeton, NJ: Princeton University Press, 1996), especially chapters two and three for a good review of these findings.

43. See, e.g., Russell B. Korobkin & Thomas S. Ulen, “Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics” (2000) 88 *Cal. L. Rev.* 1051 (arguing for fundamental modifications to the assumption of rationality); Elinor Ostrom, “A Behavioral Approach to the Rational Choice Theory of Collective Action,” Presidential Address Before the American Political Science Association (1997), in 92 *Am. Pol. Sci. Rev.* 1 (1998) (stating the need for a “second-generation” rational choice model).

44. W. Bradley Wendel, “Mixed Signals: Rational-Choice Theories of Social Norms and the Pragmatics of Explanation” (2002) 77 *Ind. L.J.* 1 at 10.

45. Scott, *supra* note 13; see also Sunstein, *supra* note 36 at 909.

46. Ellickson, *supra* note 1 at 156, n.3. However, this failure is, perhaps, matched equally by those on the Law and Society side in their failure to adequately explain the nature of these preferences, simply adducing concepts like “norm of cooperation” to explain cooperation. See Wendel, *supra* note 44 at 6. Elster compares this approach to explaining the soporific effects of opium in terms of its “dormative principle.” Elster, *supra* note 13 at 186. Indeed, as Ellickson explains, “A key shortcoming of the law-and-society school has been its failure to develop a theory of the content of norms . . . sociologists and other law-and-society scholars have tended to treat observed norms as exogenous, rather than as dependent variables whose contents are to be explained.” Ellickson, *supra* note 1 at 149.

considerations. The sense of obligation is real and can be felt very strongly.⁴⁷ Most people will not commit cold-blooded murder, even in the face of great incentive and an absolute guarantee of impunity and anonymity. This seemingly irrational conduct is a vexing issue for rational choice theorists. Some critics charge that the social norms literature “stares at an impasse until more is known about how such norms develop, operate, and are internalized.”⁴⁸ Internalization is a puzzle. For Posner’s theory, a great deal of normative behavior is a major problem. Why, for instance, do people make anonymous donations to charity? Why do people observe norms in total privacy? Put simply, if there is nobody to receive the signal, why do individuals still broadcast discount rate signals?⁴⁹

3. *Rational Choice Theory is remiss*

We all know the answer. We do not litter when we are alone, for example, because we just feel it is wrong. Feelings of shame and guilt⁵⁰ that commonly arise from breaching a norm cannot be casually dismissed. Any theory that purports to explain norms but in its explanatory rubric fails to address the feeling that the prescribed behavior is “just the right thing to do” is not only remiss, it is really only telling a fragment of the story. To speak of norms without speaking of internalization is like discussing fine dining without any mention of food. The presence of internalization is the defining essence of a norm—it is at the end of the day what we are talking about. The proposition that individuals make a rational choice each time they conform to a norm is patently false, and simply does not square with what we know as true. Some situations do call for calculated decisions, for instance the traveler in an alien culture, or the Hells angel biker dining with country club aristocrats (and vice versa), but the vast majority of occasions see individuals simply guided by a genuine belief in the inherent correctness of the norm—a quasi-natural law-like conviction of right and wrong. As I define it here, a norm is thus *a pattern of behavior that has been commonly internalized to some degree or another, generating a sense of implicit obligation*.⁵¹ This decentralized behavioural standard gives rise to certain beliefs. If a person feels it is inherently wrong to commit murder, this has a normative quality to it; if a person feels it is inherently wrong to wear

47. Scott, *supra* note 13 at 134; see also K.S. Cook & R.M. Emerson, “Power, Equity and Commitment in Exchange Networks” (1978) 43 *American Sociological Rev.* 721.

48. Neil Duxbury, “Signaling and Social Norms” (2001) 21 *Oxford J. Legal Stud.* 719; see also, e.g., Jeffrey J. Rachlinsky, “The Limits of Social Norms” (2000) 74 *Chicago-Kent L. Rev.* 1537; Robert E. Scott, “The Limits of Behavioural Theories of Law and Social Norms” (2000) 86 *Va. L. Rev.* 1603.

49. Posner acknowledges that people do behave in this fashion. Posner, *supra* note 5 at 38, 43. Note that this dilemma applies equally to norm enforcement. Posner responds by stating that “rational choice theory can be used to explain some social phenomena but not other social phenomena.” *Ibid.*

50. Some norm scholars make a distinction between shame and guilt, pointing out that shame is related to compliance, while guilt brings up issues of voluntary conformity. See, e.g., *ibid.* at 43. For our purposes, however, both are expressions of internalization.

51. I am in good company: Cooter also asserts a norm only exists if it has been internalized. Robert D. Cooter, “Decentralized Law for a Complex Economy: The Structural Approach to Adjudicating the New Law Merchant” (1996) 144 *U. Pa. L. Rev.* 1643 at 1661-66.

pinstripes with poke dots, this too has a normative quality to it. The difference is merely in degree of internalization.

Posner, however, seeks to sidestep the issue of internalization in his signaling theory, stating that his approach "... reflects a methodological commitment. My claim," he writes,

is that rational choice theory can shed light on social norms by focusing on the reputational source of behavioral regularities to the exclusion of their cognitive and emotional sources. I do not claim that rational choice theory can offer a complete explanation of social norms or of cooperation. Cognition and emotion are not irrelevant. They are just not well enough understood by psychologists to support a theory of social norms, and repeated but puzzled acknowledgments of their importance would muddy the exposition of the argument without providing any offsetting benefits.⁵²

Posner's model gives no role to internalization, or emotions of any kind.⁵³ Individuals "are thus 'stripped down' to simple, mostly selfish and rational individuals who pursue material, not normative, ends."⁵⁴ Indeed, as Posner explains, "In this model the social norm has no independent power, it is not an exogenous force, it is not internalized; it is a term for behavioral regularities that emerge as people interact with each other in pursuit of their everyday interests."⁵⁵ In Posner's defense, he does not deny the importance of internalization; he just chooses to ignore it. His theory, Posner says, is "compatible with emotions and cognitive biases ... it is in tension only with comprehensive emotion-based or cognitive theories for compliance with social norms."⁵⁶ For Posner, such theories are "methodologically sterile."⁵⁷ They cannot, he argues, predict what kinds of people will internalize norms and in what situations, nor can they predict what kinds of behavior regularities are more likely to occur.⁵⁸ Moreover, such theories treat norms as exogenous, but why they arise in the first place is left mostly unexplained.⁵⁹ This paper, however, advances the notion that Posner's signaling theory, slightly modified to incorporate internalization, can in fact account for all of this. I understand why Posner wishes to avoid the unquantifiable nature and general messiness of emotion.⁶⁰ However, there is no reason (other than intellectual preference) that necessitates that a signaling theory of norms must, or should, be hung exclusively upon the peg of rational choice.⁶¹ In fact, if we are to render a proper accounting of norms, the reach of our theory must include internalization. It cannot be ignored.

52. Posner, *supra* note 5 at 46.

53. Posner, *supra* note 16 at 477.

54. McAdams, *supra* note 2 at 679.

55. Posner, *supra* note 5 at 26.

56. Posner, *supra* note 16 at 472.

57. Posner, *supra* note 5 at 43.

58. *Ibid.* at 43-44.

59. *Ibid.* at 44.

60. Interestingly, Posner's earlier work did not exhibit this rejection of all things normative: "... even a complete game-theoretic account of cooperative behavior would miss some essential aspects of norms. We say about most norms that people bound by them feel an emotional or psychological compulsion to obey the norms; norms have moral force ... Game theory does not explain these phenomena." Posner, *supra* note 3 at 1709.

61. For a critique of Posner's theory in this respect, see McAdams, *supra* note 2 at 678-87.

B. Expanding Posner's Model: Internalization, Natural Selection, and the Expanded Signaling Model of Norms

1. Applying an Evolutionary Model to the Signaling Game

Some rational choice theorists do not entirely ignore normative motivations.⁶² McAdams, for instance, incorporates internalization into his model in the form the need for esteem; though he seems willing to open the door to internalization just enough so as to construct a rational actor model from it.⁶³ However, his esteem model does not adequately account for why compliance with certain norms, specifically non-functional idiosyncratic norms, should evoke esteem from others in the first place.⁶⁴ McAdams admits this, stating, "I have only a little to say about where the patterns of approval and disapproval come from . . ."⁶⁵ Posner's signaling theory is much better in this respect. It explains why people adopt the norms they do, even those that appear idiosyncratic and non-functional, and he does so employing an elegantly parsimonious model. Posner's theory, however, completely omits the reality of internalization. This is a gaping hole in the center of his theory. In his fervent effort to remain within the boundaries of rational choice, his account at times ends up somewhat strained.

However, as I claimed in the outset of paper, the signaling theory of norms can be aligned with the phenomenon of internalization (this is my first major departure from Posner, and an important one). This is achieved by incorporating natural selection into our theory. Indeed, they can coexist quite cleanly: *evolution has generated an instinctual proficiency in working with norms as signals in whatever form they take—a proficiency that invariably manifests in an emotional context.* This is what we call internalization. Internalization is a product of evolution that enhances the individual's ability to instinctively engage in this signaling game. Mastery over signaling games, and therefore the ability to identify suitable economic partners, is implicitly related to survival. Adeptness at the signaling game provides an evolutionary advantage. We have thus learned to rapidly internalize norms in response to these signals in a relatively fluid fashion. Indeed, the emotions and cognitive biases that Posner chooses to ignore are the very product of his signaling game. This section will lay out an evolutionary model for Posner's signaling game; the section that follows examines the theoretical difficulties that arise with such a model.

62. Besides Cooter, McAdams, and Elster are perhaps the two most prominent. See Elster, *supra* note 46; Jon Elster, "Norms of Revenge" (1990) 100 *Ethics* 862; McAdams, *supra* note 3 at 338; see also Philip Pettit, "Virtus Normativa: Rational Choice Perspectives" (1990) 100 *Ethics* 725 at 730.

63. McAdams, *supra* note 3 at 338. Others also argue along these lines, see B.D. Bernheim, "A Theory of Conformity" (1994) 102 *J. Pol. Economy* 841; George A. Akerlof, "Social Distance and Social Decisions" (1997) 65 *Econometrica* 1005.

64. Bicchieri's criticism of such an approach applies: "Yet to maintain that we conform to social norms because of the disapproval involved in violating them is of little help in explaining why norms are there, how they emerged, and why they persist." Cristina Bicchieri, "Norms of Cooperation" (1990) 100 *Ethics* 838 at 839.

65. McAdams, *supra* note 2 at 687.

As Robert Cooter explains, “... people internalize morality to improve their opportunities for cooperating with others.”⁶⁶ Internalization is nature’s way of making sure that the signaling game does not have to rely only upon rational choice. In its usual fashion, nature prefers to ensure survival-friendly behavior by manipulating the organism through its emotions and conceptions of value rather than solely through rationality, which at times may be faulty owing to its bounded nature.⁶⁷ Returning again to the example of thirst: the discomfort of thirst, for instance, takes care of the body’s need for water even though a decision to drink could also be made after consciously assessing that one is slightly dehydrated. But there is no need to; the emotions exist to regulate behavior.⁶⁸ Feelings of affection and disdain are a highly effective way to engage in the signaling game. We are, for example, disgusted by acts of selfishness in others, without ever needing to calculate that selfishness is a signal expressing that the person in question is a poor economic partner. Conversely, we admire acts of selflessness in others, towards whom we generate generally positive feelings, hardly conscious that such a character trait renders them model cooperative partners. The qualities we tend to look for in a friend—mutual trust, common values, intelligence, generosity, a sense of fairness, reliable—are disturbingly similar to a reliable business partner. We do not think of our friends and loved ones as stable economic partners, but they are. Trusts builds slowly between people as they emit and receive countless signals, and thus are able to coherently flesh out what kind of person the other party is, i.e. their discount rate. Indeed, feelings of affection are synonymous with feelings of trust. Again, this could be achieved through a rational evaluation of the signals, but there is no need to; internalizing the signaling game and placing it within an emotional context is all that is required, and is in fact more efficient due to the natural limits of rationality. At the end of the day, we eat because we feel hungry, not “in response to a rational calculus of caloric need.”⁶⁹ We thus go about our business emitting signals, for the most part, hardly conscious that we are doing so. And equally, we interpret the discount rate signals we receive from other people mostly on the level of gut emotional reaction. Internalization is how the manifold complexity of signaling is rendered more manageable.⁷⁰

66. Robert Cooter, “Do Good Laws Make Good Neighbors? An Economic Analysis of Internalized Norms” (2000) 86 Va. L. Rev. 1577 at 1601.

67. Many rational choice theorists in fact employ evolutionary models that presuppose this kind of bounded rationality to explain norm emergence. See, e.g., Robert Axelrod, *The Complexity of Cooperation: Agent-Based Models of Competition and Collaboration* (Princeton, NJ: Princeton University Press, 1997); Brian Skyrms, *Evolution of the Social Contract* (Cambridge: Cambridge University Press, 1996); H. Peyton Young, *Individual Strategy and Social Structure: An Evolutionary Theory of Institutions* (Princeton, NJ: Princeton University Press, 1998). See also, e.g., Cass R. Sunstein, *Behavioral Law & Economics* (Cambridge: Cambridge University Press, 2000); Korobkin & Ule, *supra* note 43.

68. Indeed, Frank sees the emotions as the progenitor of moral behavior rather than rational decisions. Robert H. Frank, *Passions Within Reason: The Strategic Role of the Emotions* (New York: W. W. Norton & Co., 1988) at 51-56.

69. “Individuals do not eat in response to a rational calculus of caloric need. Instead, a complex set of forces causes one to ‘feel hungry.’” Robert E. Scott, “The Limits of Behavioral Theories of Law and Social Norms” (2000) 86 Va. L. Rev. 1603 at 1606 (referencing Frank, *supra* note 68).

70. Robert Trivers famously presented a similar idea in his 1971 paper *The Evolution of Reciprocal Altruism*. Trivers argued that due to the difficulty involved in computing the complex cost-benefit

Even our emotional responses to the normative breaches of others is itself a signal of what kind of economic partner we are: sanctioning offences against third parties unrelated to us expresses our commitment to the norm and thus our discount rate (this is Posner's answer to the second-order enforcement problem, i.e. the tipping tourist's chastising friends);⁷¹ standing up for oneself when personally slighted signals that one expects to be treated fairly under these same normative rules in future rounds of cooperation (predictably, the greater the audience, the more intense this emotional impulse to respond tends to be—i.e. perceptions of personal dignity and self-esteem). Indeed, nature channels our behavior through tweaking our perceptions of value.⁷² We copulate because it is exciting; we socialize because we enjoy the company of others, and so on and so forth. And this holds equally true for the more sophisticated value conceptions that surround normative beliefs.

Internalization is the answer to the puzzle of irrational norm compliance. The time we spend adopting social norms in public is a breeding period for the internalization of norms. It deepens internalization to the point where norms are so inculcated into our core tendencies that they still influence our behavior in private.⁷³ Their internalization becomes so embedded into our character that it spills into private spheres where they appear to have no logical purpose in terms of maximizing individual utility. But this conclusion is shortsighted. These acts are not without purpose; they are profitable investments. If internalization is to have the effect it does, efficiently guiding our actions when in public, individuals must possess a legitimate belief in the objective legitimacy of these norms, and so subscribe to them equally in private. This belief in the norm's objective legitimacy is why internalization is so effective, and it cannot simply be switched off. To do so would undercut the potency of the norm, and render it largely ineffectual. Normative beliefs work more effectively when they are felt to be objective truths.⁷⁴ The utility we may sometimes lose by holding fast to our normative beliefs when in private does not compare to the enormous overall benefit gleaned from the proficient use of social norms as discount rate signals. Thus, despite sometimes appearing inefficient, internalization provides a net survival value—it secures us reliable cooperative partners.

ratios that underpin long-term reciprocity, human emotions evolved as a regulating mechanism. See R.L. Trivers, "The Evolution of Reciprocal Altruism" (1971) 46 Q. Rev. Biology 35. To facilitate this system of reciprocal altruism, "feelings and emotions—including guilt, fairness, moralistic aggression, gratitude, and sympathy—are part of the normal repertoire of human responses and are evoked in predictable situations." Harmon Holcomb & Jason Bryon, "Sociobiology" (Stanford, CA: Stanford Encyclopedia of Philosophy, 2005).

71. Posner, *supra* note 5 at 25.

72. See Gintis, *supra* note 11 (arguing that the ability to internalize norms evolves as it enhances individual fitness in situations where social behavior has become too complex to be evaluated piecemeal through individual rational assessment).

73. McAdams, *supra* note 3 at 376; see also Franks, *supra* note 68 at 152-61; Robert Ellickson, "Bringing Culture and Human Frailty to Rational Actors: A Critique of Classical Law and Economics" (1989) 65 Chicago-Kent L. Rev. 23 at 45-46.

74. Scott makes a similar point, though he is speaking about internalization in general: Scott, *supra* note 48 at 1621 ("There is long-term advantage in moral behavior. But in order for emotions, such as guilt, to work as self-enforcing commitments, satisfaction must be intrinsic in the act of compliance and not premised on the possibility that material gains may follow.").

If you were one of the prisoners in the prisoner's dilemma, who would you prefer to have in the other room: a rational actor or someone who has deeply internalized the norm of loyalty? If both prisoners have internalized the norm of loyalty, then there is no dilemma. This is why we internalize norms—because blind emotion is more reliable, and makes a better cooperative partner than a rational actor. The solution to the prisoners' dilemma need not be repetition, moral principle does the trick. Self-imposed internal sanctions in the form of a conscience are far more consistent. Who is a more reliable cooperative partner: someone who cooperates as they have calculated it is in their own present interest to do so, or someone who loves you? Which do people naturally tend to prefer? Evolution conditions our emotions on all fronts that relate to survival. This is in fact the point of departure for ideas such as evolutionary psychology and sociobiology.

2. Sociobiology and human emotions

The research of sociobiology and evolutionary game theory lend strong support to the idea that normative beliefs are a product of natural selection. For years, theorists in these fields have addressed the paradox of cooperation, arguing that human emotions are simply adaptive traits shaped by evolutionary pressures. Robert Trivers, for instance, suggests that human emotions have evolved so as to reinforce reciprocal cooperation and tit-for-tat strategies.⁷⁵ As a consequence the human psyche has been hard-wired with a predisposition towards “friendship, to gratitude and sympathy, to moralistic aggression against noncooperative behavior, to guilt and reparative altruism, to a sense of justice, and even a capacity for detecting deceit and for self-deception.”⁷⁶ John Maynard Smith building on Trivers's model, made use of game theory to develop the notion of evolutionarily stable strategies (ESS), stable in the sense that once it emerges, natural selection alone is sufficient to fix it in place.⁷⁷ Axelrod argues that the tit-for-tat norm indeed can be explained as a product of natural selection, suggesting that the instinct to obey certain norms is an adaptive behavior.⁷⁸ Similarly, others have argued that emotional tendencies such as gratitude and hostility have evolved precisely because they are effective strategies when interacting with rational maximizers.⁷⁹

75. Trivers, *supra* note 70; R.L. Trivers, *Social Evolution* (San Francisco, CA: Benjamin/Cummings, 1985) at 388-89. See also R.L. Trivers, “Reciprocal Altruism: 30 Years Later” in P.K. Kappeler & C.P. Van Schaik, eds., *Cooperation in Primates and Humans: Mechanisms and Evolution* (Berlin: Springer, 2006) 67.

76. François Nielsen, “Sociobiology and Sociology” (1994) 20 *Ann'l Rev. Socio.* 267 at 277.

77. See J. Maynard Smith & G.R. Price, “The Logic of Animal Conflict” (1973) 246 *Nature* 15; J. Maynard Smith, *Evolution and the Theory of Games* (Cambridge: Cambridge University Press, 1982).

78. Robert Axelrod, *The Evolution of Cooperation* (New York: Basic Books) at 88-105; see also Axelrod & Hamilton, *supra* note 25.

79. See J. Hirshleifer, “On the Emotions as Guarantors of Threats and Promises” in John Dupre, ed., *The Latest on the Best: Essays on Evolution and Optimality* (Cambridge, MA: The MIT Press, 1987) 307; J. Hirshleifer, “The Affections and the Passions: Their Economic Logic” (1993) 5 *Rationality Soc.* 185; J. Hirshleifer, “Evolutionary Models in Economics and Law: Cooperation Versus Conflict Strategies” in J. Hirshleifer, ed., *The Dark Side of the Force: Economic Foundations of Conflict Theory* (Cambridge: Cambridge University Press, 2001) 183; see also

The body of scholarship in these areas is large, a survey of which would take us far off course. My intention here is to merely tether their common conclusion—that our value conceptions have been shaped by evolutionary forces—to Posner's signaling theory of norms, thus creating a bridge by which internalization can be incorporated into our model.

3. *Emotion-Norm distinction*

This literature, however, overlooks a crucial theoretical link between natural selection and social norms—discount rate signals. It is important that we distinguish here between emotion and complex normative values. They are not one and the same.⁸⁰ Without normative beliefs, emotions would still exist; without emotions, norms could not exist.⁸¹ We internalize norms so we can better employ them, utilizing emotions to achieve this end. Basic emotions “are those which can be found in other mammals, are hard-wired in the brain, are reflexively produced in response to certain stimuli, are associated with certain, sometimes species-specific, physiological responses . . . and, in humans, are found cross-culturally and at an early age.”⁸² For example, the emotion of fear is an evolved trait, providing obvious survival advantages. However, fear of a particular race, or the racial hatred that goes hand in hand with this fear, is not—it is the internalization of discount rate signals between individuals in a particular group manifesting as a normative belief, i.e. racist norms.⁸³ To use another example, affection is an innate emotion, however, affection for one's country, is a norm that arises in response to discount rate signals dominant within one's network. Although emotion is involved, patriotism is a signal.⁸⁴ The same holds true for an affinity for particular religious practices, manner of dressing, tattooing, etiquette, and even acts of charity. Disgust is a basic emotion, but disgust regarding certain sexual practices, i.e. sexual mores, is a normative value—a signaling equilibrium within one's group. The evolutionary role of aggression is obvious. Aggression towards someone who puts their elbows on the dinner table, reads over your shoulder, or cuts you off driving, is the operation of a normative standard—a discount rate signal equilibrium embedded in emotion. To analogize: hunger is universal; however, the particular dishes one like's is highly contingent

H. Margolis, *Selfishness, Altruism and Rationality: A Theory of Social Choice* (Chicago, IL: University of Chicago Press, 1982); R. Frank, *supra* note 68; Robert Sugden, *The Economics of Rights, Co-Operation and Welfare* (Oxford: Blackwell, 1986) at 145-47; Cooter, *supra* note 51 at 1662 (discussing the psychological underpinning that induces norm compliance).

80. See R. Plutchik, *Emotion: A Psychoevolutionary Synthesis* (New York: Harper & Row, 1980) (positing an *evolutionary* model of emotion in which primary emotions are distinguished from more complex emotions); see also J. Panskepp, “Toward a General Psychobiological Theory of Emotions” (1982) 5 *Behavioral and Brain Sciences* 407.

81. See Jon Elster, *Strong Feelings: Emotion, Addiction, and Human Behavior* (Cambridge, MA: The MIT Press, 2000) at 98 (citing emotions as supporting social norms).

82. See L. Mealey, “The Sociobiology of Sociopathy: An Integrated Evolutionary Model” in Simon Baron-Cohen, ed., *The Maladapted Mind: Classic Readings in Evolutionary Psychopathology* (East Sussex, UK: Psychology Press, 1997) 133 at 170 at n.2.

83. Posner gives an illuminating explanation of racist norms as discount rate signals. See Posner, *supra* note 5 at 133-43.

84. *Ibid.* at 112-19.

upon upbringing and culture. Emotions are fitness enhancing in that they channel our basic behavior: contact with fire is painful, so the hand recoils. Normative beliefs are fitness enhancing in that they direct our behavior with regards to signals. These signals are embedded within emotion so they can be employed more proficiently, and without the need for rational calculation.

Thus, we are not hard-wired with normative values; the internalization of signals gives rise to normative evaluations. What we are ‘hard-wired’ with, rather, is merely the simple instinct to internalize discount rate signals in whatever form they take. This then produces complex concepts of a normative nature. Elaborate normative beliefs are not etched into the core of our characters, but instead are highly fluid and malleable.⁸⁵ This becomes clear when we consider how normative beliefs vary across cultures, and shift over time, and how susceptible moral beliefs are to group pressures (this is examined in greater detail below).⁸⁶ The frequent arbitrariness of social norms underscores this reality—within networks of people, norms often emerge that are amazingly idiosyncratic. Thus, we are not hard-wired, for instance, with a tendency towards altruistic behavior per se; we are simply hard-wired with a tendency to recognize and internalize low discount rate signals, and this causes us to internalize norms of an altruistic nature. Posner’s signals are thus the crucial link between emotion and the emergence of norms.

4. *Posner’s Proviso*

Posner anticipates that many will object to his theory arguing that norms relating to such things as racial discrimination, patriotism, and fashion “bubble forth from a cauldron of instincts, passions, and deeply ingrained cultural attitudes.”⁸⁷ He responds by recognizing the legitimacy of such criticisms, then retreats into a defense of his methodological commitment.⁸⁸ I give no such ground. My contention here is that all such “complex social phenomenon” are but evolutionary byproducts of a simple signaling game. Utilizing social norms is instrumental to our survival, thus group behavior is imbued with an emotional dimension—a normative nature. In the language of Evolutionary psychology, internalization is an *evolved psychological mechanism*.⁸⁹ Internalization enhances our ability to play the signaling game—it does so by putting it into a normative context, ascribing feelings of right and wrong to certain behaviors. This is a sense that particular behaviors connote an objective moral dimension in all circumstances. This is vital to maintain the impression that the act possesses an objective ethical reality. The end result being that even in private this sense will remain operative, influencing the individual’s behavior where it may seem irrational from a rational actor model (as in our example of the tipping tourist).⁹⁰

85. See *infra* notes 161-68 and accompanying text.

86. S.E. Asch, “Opinions and Social Pressure” (1955) 193 *Scientific American* 31; M. Sherif, “An Experimental Approach to the Study of Attitudes” (1937) 1 *Sociometry* 90.

87. Posner, *supra* note 5 at 46.

88. *Ibid.*

89. David M. Buss, *Evolutionary Psychology: The New Science of the Mind* (Boston, MA: Allyn & Bacon, 2004) at 50.

90. See Frank, *supra* note 68 at 5-7.

Because normative beliefs have been internalized, in a sense, etched into the core character of the actor, their behavior becomes that much more dependable and predictable, making others more willing to rely on assumptions about the individual's future behavior.⁹¹ Bonds of association governed by participants' internalized sense of right and wrong are thus far more stable. The dizzying complexity of emitting and receiving countless discount signals is difficult to negotiate through a rational decision making process. Navigating this complexity is simplified enormously; indeed it is made possible, when the entire undertaking plays out within the realm of internalized value, and gut feeling. This reinforces the signaling game, providing a distinct evolutionary advantage to agents who internalize norms.

Posner in his insistence on remaining within the confines of a strict rational choice model identifies only one side of the equation; indeed, it is a very narrow slice, as the bulk of human behavior is not guided purely by rational deliberation. What is missing in the pure rational actor model of norms is the first-person phenomenology of social experience—the experience of reacting to normative values.⁹² Indeed, traditional micro-economics treats the internalization of norms as an “exogenous taste.”⁹³ The present model parts company with most other law and norm theories in terms of the robust emphasis it places upon internalization.⁹⁴

The signaling game becomes internalized and translated into feelings of “right and wrong.” From fashion tastes to moral convictions, an individual's value system stems from the internalization (or lack thereof) of a signaling game with those within her signaling network. It is a means of tacit communication with potential cooperators, broadcasting that one is a team player. In the struggle to secure economic partners, only one signal is of any real importance: cooperator or non-cooperator. The vast complexity of internalization and the normative values it engenders can be reduced to the elementary mechanics of sending and reading these simple signals. From our perspective, it is difficult to conceptualize norms detached from the moral dimensions they engender; this is after all the prism through which we look. Nevertheless, nature speaks in a simple binary code of high and low discount rates, which we then hear in the complex language of emotional-moral conceptions. Understanding this code we can understand a great deal: “No one thinks that baseball players consciously solve quadratic equations whenever they throw the ball, but we can nevertheless predict the path the baseball takes using quadratic

91. Scott, *supra* note 48 at 1606 (“Salient emotional reactions—such as guilt, anger, or empathy—mark one as a ‘cooperator’ who is able to make credible commitments concerning her future actions.”).

92. A point adamantly made by Wendel in his critique of Posner, see Wendel, *supra* note 44 at 30 (“... it matters critically whether the theory is radically at odds with one's subjective experiences. In these contexts, we may have reason to reject the rational-choice model in favor of one that employs explanatory concepts that are congruent with those actually deployed by the deliberating individual.”).

93. Robert Cooter, “The Normative Failure of Law” (1997) 82 Cornell L. Rev. 947 at 952; see, e.g., Avner Grief, Paul Milgrom & Barry Weingast, “Coordination, Commitment, and Enforcement: The Case of the Merchant Guild” (1994) 102 J. Pol. Economy 745 at 764-71; Paul Milgrom, Douglass North, & Barry Weingast, “The Role of Institutions in the Revival of Trade: The Law Merchant, Private Judges, and the Champagne Fairs” (1990) 2 Economy & Politics 1 at 6-14.

94. Cooter being one notable exception. See Cooter, *supra* note 51 at 1690-94; Cooter, *supra* note 66; Cooter, *supra* note 93.

equations.”⁹⁵ Indeed, our norm players play these signaling games hardly conscious that they are signaling discount rates. The signaling process is mostly instinctual. Yet because they conceptualize norms in terms of values, emotion, and morality, they play the game quite effectively.

Discount rates are the language of reality; moral creeds are the language of people.⁹⁶ Both are valid descriptions as much as fluctuations in air pressure and music describe the same thing. However, our moral universe, flowering as it does into complexity, can be reduced to simple discount rate signals expressing cooperation or opportunism.⁹⁷ We construct entire cultures around this deeply internalized signaling game. Our concepts of fairness and justice spring from this signaling game. As Robert Sugden explains, the norms that we subscribe to may “have moral force for us. But if they do, that is because our moral beliefs are the products of the same process of evolution.”⁹⁸ All morally praiseworthy acts imply a degree of self-sacrifice, deferring one’s own interests—it is a signal. The intensity of this moral quality is directly commensurate with the degree of self-sacrifice (and the reverse is true). It is no doubt unsettling to conceptualize the bonds of friendship and community as an economic scheme fashioned by evolution. It is a distinctively chilling Hobbesian view of human nature; unfortunately, our discomfort does not invalidate the argument.⁹⁹ (Though we should note that deconstructing music in terms of air density does not make music any less beautiful). I do not wish to digress into the theoretical intricacy of postmodern analysis, however, it should be noted that the present model thrusts us forcefully in that direction. Having proposed an evolutionary framework for Posner’s signaling game, I will now examine the theoretical difficulties that arise when we embrace such a model.

95. Douglas G. Baird, Robert H. Gertner, & Randal C. Picker, *Game Theory and the Law* (Cambridge, MA: Harvard University Press, 1994) at 125.

96. For example, animals certainly kill, but it is unclear if an animal can commit murder; we don’t have the moral language for this, as we don’t impose norms on animal behavior in the way we do for human conduct.

97. A bold assertion could be made here that follows from this line of reasoning: *Morality does not exist outside the world of these discount signals. The arc of our moral universe is wholly constructed from this signaling game—morality is an emergent property.* When one considers that approximately 4% of all males (sociopaths) do not experience moral sentiment at all, the onus would seem to rest with those claiming its objective validity—if they cannot meet this burden, one would have to conclude that it is not an objective truth but rather a subjective concoction. However, a Kantian universal moral truth is not necessarily denied here. One could equally make the case that evolution merely provides otherwise selfish organisms a degree of clarity in regards to certain moral truths where and when it confers an evolutionary advantage.

98. Robert Sugden, “Spontaneous Order” (1989) *J. Economic Perspectives* 85 at 95. Sugden uses the term “convention”.

99. An important point regarding rational choice theory should, however, be understood here. Arguably, behavior based upon self-interest is just as much a product of internalization as selfless behavior. It is simply the internalization of a different order, one that imparts a normative quality to self-interest. Indeed, a rational calculus is employed, but it is predicated on a fundamental assumption that is no less normative in nature. The tremendous survival advantage of selfishness ensured it was evolutionarily selected for to a degree. The rationality of rational choice is that decisions are made through a careful cost benefit analysis; however, the basis for this analysis (self-interest) is still very much normative. My point here is that in either case—rational choice, or the blind internalization of norms—internalization is present. Even the most self-serving individuals believe they are normatively justified in their self-interest. Indeed, an argument could be made that the difference is more the nature of the internalization than the presence or absence of it.

II. Key Questions this Model brings up—and their Answers

A. *Some questions the Expanded Signaling Model brings up*

What I have said up to this point regarding natural selection and internalization is not altogether original.¹⁰⁰ It has been the stomping ground of evolutionary psychologists and sociobiologists for some time now. However, as far as I know, linking this assumption explicitly to discount rate signals is. In fact, doing so may help resolve some key questions that plague an evolutionary approach to norms. There are, however, two basic problems that arise with this explanation that I will now address. First, why would norms that are inefficient (as is often the case) be selected for? Second, if norm internalization is fitness enhancing, would not even individuals possessing high discount rates also evolve a predisposition to internalize low discount rate signals?

The answer to both of these questions lies here: I submit that, contrary to common assumptions, evolution does not generate the internalization of specific norms because of their inherent survival advantage; rather, it generates the *tendency to internalize, in varying degrees, any norm that functions as a signal of discount rates*¹⁰¹—the survival advantage is in its role as a signal. Thus, what has been selected for is the internalization of discount rate signals, not the particular expression the signal happens to take. The norms themselves do not necessarily provide any intrinsic survival advantage (consider dinner etiquette). They might even appear disadvantageous. Rather, survival value rests in the ability to utilize norms as signals; in this sense, the norm's actual content takes a backseat of relative less importance. Therefore even “inefficient” norms arise because they still serve an important evolutionary function—they are signals.

B. *Functional Norms and “Inefficient Norms”*

Before examining these two questions, however, some preliminary discussion is required. First, some comment should be made here regarding the nature of norms. I posit that all social norms serve as signals. However, there are two varieties: norms with no clear function beyond that of signaling, and norms that serve a non-signaling function in addition to their use as signals. The content of some norms provide an inherent survival benefit, norms related to hygiene for instance. Such norms may be distinguished from norms whose sole use are as signals, table manners for example. Posner is particularly interested in this second class of norms, which are more arbitrary in nature.¹⁰² I will call this first class *functional norms* as distinguished from *non-functional norms* (though this second name is slightly misleading

100. See *supra* note 12.

101. Or not internalize as in the case of pure opportunists. What is therefore meant here is the degree of internalization has been selected for.

102. Posner, *supra* note 5 at 37 (“[W]hat might emerge as a conventional signal in any group is to a certain extent arbitrary.”).

as these norms do indeed provide a vital function as signals).¹⁰³ Functional norms stabilize and thrive due to their inherent benefit in response to cultural selection pressures, as well as a result of their role as signals. Their functional value in conjunction with their signaling value works to proliferate the norm.

However, norms that do not provide any clear functional benefit in terms of survival (think table manners, tattooing, fashion norms—these I will call non-functional norms) stabilized, as Posner explains, purely due to their use as signals.¹⁰⁴ Essentially, “when a pattern of behavior arises completely at random, any (random) deviation from the (statistical) norm becomes salient, and an opportunity for anyone to signal that he belongs to the good type.”¹⁰⁵ Posner also posits the idea of norm entrepreneurs as playing a crucial role in advocating for the use of specific behaviors as signals.¹⁰⁶ Through their use as signals they become stable signaling equilibria—social norms.¹⁰⁷ The evolutionary resilience of functional norms stemming from their inherent non-signaling benefit made them salient points of behavior from which they could evolve into signals. They are in a sense co-opted as signals. Becoming discount rate signals further entrenches their normative characteristic. For instance, refraining from murdering others serves a vital functional purpose as well as a strong signal that one is a cooperative type (murder of group members is perhaps the clearest signal that one is a non-cooperator). Other behaviors, although providing no intrinsic benefit, were sufficiently salient so as to also proliferate into signals, though their specific subject matter (beyond the discount rate they express) is of no real consequence.

Functional or non-functional, all norms are the same in the sense that they serve as discount rate signals. The intrinsic evolutionary advantage to functional norms coupled with their signaling capacity, contribute to their stability and spread. Not surprisingly, because of their practical utility, this class of norm tends to be relatively consistent across cultures and historical periods. The greater this practical utility; the greater its universality (e.g. proscription against murder, incest, cannibalism).

103. For a good overview of the literature regarding this distinction, see Robert B. Cialdini & Melanie R. Trost, “Social Influence: Social Norms, Conformity, and Compliance” in Daniel T. Gilbert, Susan T. Fiske & Gardner Lindzey, eds., *The Handbook of Social Psychology*, vol. 2 (New York: Oxford University Press, 1998) 151 at 152-53.

104. Posner, *supra* note 5 at 25.

105. *Ibid.* See also Sugden, *supra* note 79 at 47-52, where he speaks of “focal points.” Schelling was perhaps the first to articulate this idea of salience or focal points, facilitating coordination. See Thomas C. Schelling, *The Strategy of Conflict* (Cambridge, MA: Harvard University Press, 1980) at 53-80, 83-118.

106. Posner, *supra* note 5 at 29-32.

107. We can see this clearly with norms of an aesthetic nature. For example, the sexualizing of woman’s breasts might be explained in this manner. Likewise, aesthetic offenses such as facial pimples, obesity, and male-pattern baldness might be attributed to their common characteristic of obviousness. To be sure, it would be hard to imagine a norm of this nature arising that could not be plainly seen by others. Research regarding the difficulty in creating a brand image for “invisible” products that are not readily observable, such as men’s underwear, illustrates this point in the context of fashion norms (though even here a select few will see the product). See Jui-Yen Yen & Mei-Liang Chen, “Creating Brand Value in Third Countries: A Case of Underwear Industry” (2007) *J. International Management Studies* 133 (concluding that there is a necessity to place an inordinate emphasis on quality in marketing as a way of overcoming branding difficulties related to invisible products).

Non-functional norms, for their part, are far more culturally idiosyncratic, as non-functional norms stabilized and spread due purely to their signaling function, and thus are often arbitrary.

C. Costly Signaling Theory

Some mention should also be made here regarding the roots of Posner's signaling model—costly signaling theory—as some of the findings in this literature may be of use to us. Arising independently in economics and evolutionary biology, costly signaling theory (CST) holds that certain behaviors are adaptive in that they are difficult-to-fake signals of certain unobservable traits of an actor, such as access to resources, disease resistance, physical prowess, etc.¹⁰⁸ The act constitutes “an honest signal of the member's quality as a mate, coalition partner or competitor, and therefore results in advantageous alliances for those signaling in this manner.”¹⁰⁹ They are “reliable” signals because of their costly nature, similar to how the purchasing of expensive art is a reliable indicator of an individual's wealth, as someone lacking financial resources simply could not afford to waste money on such a thing. Actors lacking the quality (here the quality is wealth) are simply incapable of mimicking the signal. Sending such signals benefits both the sender and the receiver as they are able to identify each other. The earliest work on signaling games was Michael Spence's model of education signaling and, in the field of biology, A. Zahavi's work on animal signaling, later formalized by Alan Grafen and Charles Godfray.¹¹⁰ The CST literature has grown over the past three decades, with the proliferation of theoretical models, as economics and evolutionary biological approaches to human behavior have converged.¹¹¹ Posner constructed his model

108. Eric A. Smith & Rebecca Bliege Bird, “Costly Signaling and Cooperative Behaviour” in Herbert Gintis et al., eds., *Moral Sentiments and Material Interests: The Foundations of Cooperation In Economic Life* (Cambridge, MA: The MIT Press, 2005) 116.

109. Herbert Gintis, Eric Alden Smith & Samuel Bowles, “Costly Signaling and Cooperation” (2001) 213 *J. Theor. Biol.* 103 at 103.

110. Though Veblen in his study of conspicuous consumption should be credited with first postulating the idea of signaling. Thorstein Veblen, *The Theory of the Leisure Class: An Economic Study in the Evolution of Institutions*, Indian ed. (New Delhi, India: Aakar Books, 2005 [1899]); A.M. Spence, “Job Market Signaling” (1973) 90 *Quarterly J. Economics* 225; A. Zahavi, “Mate Selection—a Selection for a Handicap” (1975) 53 *J. Theor. Biol.* 205; A. Zahavi, “Reliability in Communication Systems and the Evolution of Altruism” in B. Stonehouse & C.M. Perrins, eds., *Evolutionary Ecology* (Baltimore, MD: University Park Press, 1977) 253; A. Grafen, “Biological Signals as Handicaps” (1990) 144 *J. Theor. Biol.* 517; H.C.J. Godfray, “Signaling of Need by Offspring to Their Parents” (1991) 352 *Nature* 328.

111. Exploration on the biological side tends to be far richer. Although not an exhaustive list, see, e.g., J. Maynard Smith, “Honest Signaling: The Philip Sidney Game” (1991) 42 *Animal Behaviour* 1034; N. Nur & O. Hasson, “Phenotypic Plasticity and the Handicap Principle” (1984) 110 *J. Theor. Biol.* 275; M. Enquist, “Communication During Aggressive Interactions with Particular Reference to Variation in Choice of Behaviour” (1985) 33 *Animal Behaviour* 1152; J. Maynard Smith & D.G.C. Harper, “The Evolution of Aggression: can Selection Generate Variability?” (1988) 319 *Philosophical Transactions of the Royal Society of London*, 557; R.A. Johnstone & A. Grafen, “The Continuous Sir Philip Sidney Game: A Simple Model of Biological Signaling” (1992) 156 *J. Theor. Biol.* 215; M. Lachmann & C.T. Bergstrom, “Signaling Among Relatives. II. Beyond the Tower of Babel” (1998) 54 *Theoretical Population Biology* 146; P.L. Hurd, “Communication in Discrete Action-Response Games” (1995) 174 *J. Theor. Biol.* 217; S.

largely from Spence's earlier work in the economic literature.¹¹² Posner, however, further honed the idea, applying it exclusively to the communication of discount rates in relation to social norms.¹¹³ Some of the research in the CST literature may be of help and thus is brought into the discussion below.

D. Why would Inefficient Norms be selected for?

To reiterate: Evolution produces the tendency to internalize any norm that functions as a signal of a discount rate. The norms' specific content (beyond its role as a discount rate signal), however, is unimportant. This explains why many norms of a non-functional variety might be inefficient even under an evolutionary model: what has been selected for are not the norms themselves, but the general predisposition to internalize norms. The norms themselves may still give rise to inefficiencies in particular instances, a fact cited by many norm theorists,¹¹⁴ however, taken as a whole, the tendency to internalize norms confers a distinct survival advantage. Indeed, a norm can be evolutionarily stable, and yet not Pareto-efficient.¹¹⁵

While "many social norms," Posner writes, "contribute to social welfare, many social norms harm social welfare ..."¹¹⁶ Indeed he goes on to assert bluntly that, "Functionalism—the view that social practices and norms are efficient or adaptive in some way—is empirically false and methodologically sterile."¹¹⁷ Not all norms are necessarily efficiency-enhancing.¹¹⁸ We simply "cannot conclude that societies will opt for efficient norms. It is doubtful, for example, that norms of retribution are efficient, or that pushing is superior to queuing. Yet these are the operative norms in quite a few cases."¹¹⁹ Deploying concepts borrowed from evolutionary game theory, Paul Mahoney and Chris Sanchirico show that "efficient norms will prevail only in certain settings and not others ..."¹²⁰, concluding that positive legal

Számadó, "The Validity of the Handicap Principle in Discrete Action-Response Games" (1998) 198 *J. Theor. Biol.* 593; G. Noldeke & L. Samuelson, "How Costly is the Honest Signaling of Need?" (1999) 197 *J. Theor. Biol.* 527; R.A. Johnstone, "Sexual Selection, Honest Advertisement and the Handicap Principle: Reviewing the Evidence" (1995) 70 *Biological Reviews* 1; Gintis, *supra* note 72; Francis T. McAndrew, "New Evolutionary Perspectives on Altruism: Multilevel-Selection and Costly-Signaling Theories" (2002) 11 *Current Directions In Psychological Science* 79; Gintis, Smith & Bowles, *supra* note 103; Ernst Fehr & Urs Fischbacher, "The Nature of Human Altruism" (2003) 425 *Nature* 785 at 785; James L. Boone, "The Evolution of Magnanimity: When is it Better to give than to Receive?" (1998) 9 *Human Nature* 1; Samuel Bowles & Herbert Gintis, "Can Self-Interest Explain Cooperation?" (2005) 2 *Evol. Inst. Econ. Rev.* 21; Smith & Bliege Bird, *supra* note 108.

112. Spence, *supra* note 110.

113. Posner, *supra* note 5.

114. Posner, *supra* note 3; see also Paul Mahoney & Chris William Sanchirico, "Competing Norms and Social Evolution: Is the Fittest Norm Efficient?" (2001) 149 *U. Pa. L. Rev.* 2027; Posner, *supra* note 5 at 169-84; Sugden, *supra* note 98; Bicchieri, *supra* note 33 at 838.

115. Sugden, *supra* note 98 at 93.

116. Posner, *supra* note 5 at 8.

117. *Ibid.* at 172.

118. H. Peyton Young, "Social Norms" 6 (University of Oxford, Department of Economics, Discussion Paper Series No. 307, 2007).

119. *Ibid.*

120. Mahoney et al., *supra* note 114 at 2027.

institutions are in fact required to periodically correct inefficiencies.¹²¹ In their view, “survival of the fittest does not imply survival of the efficient.”¹²² Sugden argues that normative patterns of behavior are not “necessarily efficient” nor “serve any overarching social purpose; thus they cannot, in general, be justified in terms of any system of morality that sees society as having an overall objective or welfare function.”¹²³ Elster also regards many norms as dysfunctional,¹²⁴ concluding that the functionalist argument is dubious; the beneficial nature of norms is not always clear.¹²⁵ Even in situations where a norm can be said to be welfare enhancing, such as distribution, retribution and cooperation, it is usually not the sole means that end can be achieved.¹²⁶ A great many social norms are “underdetermined with respect to the collective objectives they may serve, nor can they be ordered according to a criterion of greater or lesser efficiency in meeting these goals.”¹²⁷

Theorists who assert that evolutionary and rational choice explanations of normative behavior are compatible in that natural selection directly shapes preference formation¹²⁸ (the present model does this but it adopts a very different approach) often point to the universality of norms against murder, theft and cannibalism across cultures in support of this view.¹²⁹ However, sociobiological theory remains fundamentally difficult to square with rational choice explanations “since evolution can produce behaviors, such as those related to altruism ... that seem ‘irrational’ from the point of view of maximizing individual utility.”¹³⁰ Our tipping tourist is one such example. Indeed, it is a daunting task to “draw on evolutionary biology in order to show that efficient norms are adaptive.”¹³¹

1. Inefficient Norms: The example of Seppuku

Consider the example of seppuku, the Japanese Samurai tradition of ritual suicide by disembowelment.¹³² How could such a social norm evolve? To be sure, it provides little in the way of survival advantage (to say the least). Indeed, one would think

121. *Ibid.* at 2062.

122. *Ibid.* at 2027.

123. Sugden, *supra* note 98 at 97.

124. Elster, *supra* note 13 at 125-51.

125. Elster, *supra* note 81 at 88.

126. Bicchieri, *supra* note 64 at 838.

127. *Ibid.*

128. Eric A. Smith & Bruce Winterhalder, “Natural Selection and Decision Making: Some Fundamental Principles” in Eric A. Smith & Bruce Winterhalder, eds., *Evolutionary Ecology and Human Behavior* (New York: Walter de Gruyter, 1992) 49; see also J. Hirshleifer, “Economics from a Biological Viewpoint” (1977) 20 *J. L. Econ.* 1; Hirshleifer, *supra* note 79; J. Hirshleifer, *Economic Behavior in Adversity* (Chicago, IL: University of Chicago Press, 1987).

129. Posner, *supra* note 114 at 1723.

130. Nielsen, *supra* note 76 at 271.

131. Posner, *supra* note 114 at 1723.

132. A description of the act: “A samurai committing seppuku is expected to stab the left side of his abdomen first and then slit it open sideways. In the process he will also cut and slit the internal organs, causing excruciating pain. It usually takes hours before one dies successfully, thereby prolonging the excruciating pain and requiring a superhuman courage and perseverance.” Toyomasa Fusé, “Suicide and Culture in Japan: A Study of Seppuku as an Institutionalized Form of Suicide” (1980) 15 *Social Psychiatry* 57 at 61.

a norm of this nature would be a leading candidate to be selected out of human psychology.¹³³ Similarly, norms that encourage substance abuse, smoking, celibacy, suicide bombing, extreme dieting, and the like would likewise fall into this category. The question is why then from an evolutionary perspective would norms so patently inefficient be selected for? However, when we uncouple the specific content of the norm from the normative act, the issue resolves itself. The specifics of the norm are not what are selected for, rather it is the general act of signaling.

One could of course argue that Seppuku is simply a case of a more general norm such as honor or duty, evolutionarily efficient in isolation, run amok (the same argument could be made for smoking and suicide bombers).¹³⁴ However, if we are willing to step back from the specific norm arguing that a more general norm underpins it, we are intellectually obligated to not stop at this level of analysis, but retreat further and survey the origin of even this more general norm. Though the path might be winding it ultimately leads back to the simple act of signaling discount rates. The point I wish to make here is that our analysis need not go further than the core function of these norms as base signals—nature's normative code.

2. *The Evidence*

There is a wealth of evidence that strongly supports the contention that while we have a tendency to internalize norms, this is not specific to the norm itself. First, the variance between cultures in terms of the content of norms strongly suggests this. Ethnographic research shows that norms are a cultural universal.¹³⁵ Indeed, norms are found in all cultures without fail.¹³⁶ However, while “norms are present in all human groups, one of the most striking facts about them is that the *contents* of the norms which prevail in different groups are quite variable.”¹³⁷ As Elster explains, “Although the emotions that sustain social norms seem to be universal, the behavior targeted by these norms varies from one group to another.”¹³⁸ Indeed, many cultural norms are stunningly arbitrary or downright bizarre; consider the ancient Chinese practice of female foot binding or ritual sacrifice among the Incas.¹³⁹ In American culture, for example, a basket on a bicycle is for some reason associated with femininity; even certain colors have been assigned to the genders (pink and blue). The fact that while the majority of social norms are highly arbitrary, all

133. But we need not look so far, there are similar norms that are more familiar to the western reader, such as the practice of dueling in the American South. See Lawrence Lessig, “The Regulation of Social Meaning” (1995) 62 U. Chicago L. Rev. 943 at 971-72.

134. Indeed, seppuku has been explained as being caused by “intense socialization into and dedication to, one’s social role.” Fusé, *supra* note 132.

135. E. Sober & D.S. Wilson, *Unto Others: Evolution and Psychology of Unselfish Behavior* (Cambridge, MA: Harvard University Press, 1998) at 165; S. Roberts, *Order and Dispute: An Introduction to Legal Anthropology* (London: Martin Robertson, 1979); D. Brown, *Human Universals* (New York: McGraw-Hill, 1991).

136. Chandra Sekjar Sripada & Stephen Stich, “A Framework for the Psychology of Norms” in Peter Carruthers, Stephen Laurence & Stephen P. Stich, eds., *The Innate Mind: Culture and Cognition* (Oxford: Oxford University Press, 2007) 280 at 282.

137. *Ibid.*

138. Elster, *supra* note 81 at 98.

139. Cialdini & Trost, *supra* note 103 at 151.

cultures have a propensity to develop norms, suggests that although the tendency to internalize norms is universal, this is largely unrelated to the specific subject matter of the norm.¹⁴⁰ In fact, social groups often generate norms that are contradictory. Some cultures develop a norm for queuing, others for pushing. Elster writes, “... the actions prescribed or proscribed by the norms vary enormously across groups. Thus norms of vengeance may be contrasted with the norm of turning the other cheek”¹⁴¹ Norms often “conflict even in the same place. They conflict when different groups—often a dominant group and various subgroups—live in the same town or city. Indeed, the norms of one group often require a behavior that another group’s norms forbid”¹⁴² The same applies to different historical periods of even the same society. Norms regarding slavery in the United States in 1810 are profoundly different from 2010. Norms related to environmentalism and the tolerance of homosexuality have shifted dramatically in just the last two decades.

Nevertheless, research shows that social norms demonstrate a “*reliable pattern of ontogenesis*. Regardless of their biological heritage, almost everyone ... acquires the norms that prevail in the local cultural group in a highly reliable way.”¹⁴³ It makes no difference at all if the norm concerns foot binding, necks rings,¹⁴⁴ gender roles, the wearing of ties, queuing, or pushing; “In no human group is it the case that some individuals reliably acquire the prevailing norms while many others don’t.”¹⁴⁵ Arguments based on efficiency, functionalism, universality, or an appeal to some other guiding mechanism tied explicitly to the content of the norm itself is difficult to reconcile with this sociological fact. The reader might respond that, while this is true, some norms do appear to be universal, and persistent over time, such as the prohibition against theft, murder, and cannibalism.¹⁴⁶ This is true, but only in a limited sense. There are certain “norms which one sees again and again in almost all human societies, [however] in order to discern these commonalities, one has to stay at a fairly high level of generality.”¹⁴⁷ Thus, while there are, broadly speaking, “certain high-level commonalities in the norms that prevail across groups, as one looks at norms in more detail it is clear that there is tremendous variability in the *specific rules* one finds in-different groups.”¹⁴⁸

This commonality of certain norms when viewed from a very general level, and the arbitrary and culturally specific nature of others can be explained. Social norms that are universal are not related to the content of the norm per se; their universality rather is connected to the inherent signaling quality that underpins the act. The level of generality that must be maintained in order to discern universals is a reflection

140. Sripada et al., *supra* note 136 at 282.

141. Elster, *supra* note 81 at 101.

142. McAdams, *supra* note 2 at 637.

143. Sripada et al., *supra* note 136 at 285; see also Benjamin Kilborne & Lewis L. Langness, eds., *Culture and Human Nature: Theoretical Papers of Melford E. Spiro* (New Brunswick, NJ: Transaction Publishers, 1994) at 136.

144. See Edith T. Mirante, *Burmese Looking Glass: A Human Rights Adventure and a Jungle Revolution* (New York: The Atlantic Monthly Press, 1993).

145. Sripada et al., *supra* note 136 at 285.

146. Posner, *supra* note 114 at 1723.

147. Sripada et al., *supra* note 136 at 284.

148. *Ibid.* at 283.

of the general nature of the discount rate signal latent in the behavior. The specific rules of these norms may vary, but they are virtually universal because they intrinsically express an actor's general discount rate. For instance, the act of theft implicitly signals a high discount rate, so it is unsurprising to find norms related to this behavior present in all cultures. Though the specifics may vary, in its broad strokes it should be ubiquitously present. The same holds true for physical assault, murder, cannibalism and so forth. These acts implicitly convey a discount rate signal. After all, what is a greater indication of a disinterest in long-term cooperation than killing and eating the other person? Other social norms, most social norms, do not intrinsically communicate any discount rate but nevertheless evolved as signals. These norms form a wider outer ring of relatively benign behaviors—table manners, shaking hands, wearing a nose ring—that have been latched onto and co-opted to serve a signaling function. As a result, these norms are often quite arbitrary, and can even be mutually contradictory.

Secondly, the idea that we have an innate tendency towards certain norms is unpersuasive and contradicted by empirical research. We have an innate tendency to internalize norms; however, the norm's content (beyond the discount rate it expresses) seems to be of less importance: "If there were innate norms ... then they would almost certainly be cultural universals."¹⁴⁹ Norms should be identical across cultures, or in the very least, non-contradictory. Indeed, we should "expect to find them in all human groups ..."¹⁵⁰ However, "... the ethnographic and historical evidence does not support the existence of such exceptionless universals."¹⁵¹ The production of norms is universal, but they are not universal in content. What this suggests is "that there are innate psychological mechanisms specialized for the acquisition and implementation of norms ..."¹⁵² While norms differ widely in nature, "the existence of these mechanisms would help explain the universal presence of norms in all human groups."¹⁵³

There is ample psychological evidence that norms are not innate, but are rather acquired during early childhood.¹⁵⁴ Sharing for instance is not innate in small children.¹⁵⁵ Children begin to demonstrate norm internalization between three and five years of age.¹⁵⁶ This is attributed to a process of social learning, parental discipline being a major factor.¹⁵⁷ The child reliably "models his behavior in accordance with

149. *Ibid.* at 299.

150. *Ibid.*

151. *Ibid.*

152. *Ibid.* at 282.

153. *Ibid.*

154. Larry Nucci, "Moral Development and Character Formation" in V.C. Pandey, ed., *Value Education and Education for Human Rights* (Delhi, India: Isha Books, 2005) 66 at 77; Sripada et al., *supra* note 136 at 284.

155. Ellickson, *supra* note 73 at 46; see W. Damon, *Social and Personality Development: Infancy Through Adolescence* (New York: W. W. Norton & Co., 1983) at 128-37.

156. L.P. Nucci, *Education in the Moral Domain* (Cambridge: Cambridge University Press, 2001); E. Turiel, *The Development of Social Knowledge: Morality & Convention* (Cambridge: Cambridge University Press, 1983).

157. See Robert D. Cooter, "Law and Unified Social Theory" (1995) 22 J.L. & Soc'y. 50 at 61. Cooter also references Freud's theory of the "ghost in the nursery," which holds that moral behavior is the consequence of childhood memory of parental punishment. See Sigmund Freud, *The Ego and the Id* (New York: W. W. Norton & Co., 1990 [1927]).

[the parent's] norms."¹⁵⁸ By the age of ten, almost all children have developed an understanding of fairness as basic reciprocity.¹⁵⁹ However, "it is not until middle to late adolescence that children develop a coordinated understanding of conventions as constituent elements of social systems ... [children] seem disconnected from society's rules even when their normative content [e.g., "Don't talk with your mouth full."] has been repeatedly presented to them."¹⁶⁰ Particular normative beliefs are a product of social learning.

Thirdly, the sheer malleability of normative beliefs undermines the claim that norms are somehow innate. Group conformity regarding social norms is well documented, even at an internalized level.¹⁶¹ Early studies on conformity by S.E. Asch and Muzafer Sherif demonstrated the extent to which an individual conforms to the norms of the larger group.¹⁶² Sherif's autokinetic study in particular deals with private perceptual-cognitive change—internalization. When subjects with mismatched perceptions regarding the movement of a small red dot on screen were placed together in groups of 2 or 3 and randomly asked to say aloud the degree of movement they saw, the initial difference in judgments began to disappear, such that the subjects' responses gradually converged becoming very similar as they repeated the exercise.¹⁶³ When later retested alone, subjects did not revert back to their previous judgments but rather continued to exhibit these new perceptions.¹⁶⁴ The effect was found to be extremely resilient, continuing to influence their individual judgments up to a year later.¹⁶⁵

To a great extent, our preferences are *socially programmable*.¹⁶⁶ Norms and values "are incorporated into individual preference functions through the sociological mechanism [of] *socialization* and the psychological mechanism [of] the *internalization of norms*."¹⁶⁷ The effectiveness of propaganda and marketing campaigns at shaping public opinion, and group-related phenomenon such as: herd effect, groupthink, behavioral contagion, group pressure, imitation, observational learning, suggestion, vicarious conditioning, social influence, all speak to the pliability of normative beliefs. There is now growing research that suggests humans are neurologically predisposed to modify their beliefs in line with their group environment.¹⁶⁸

158. Kilborne & Langness, eds., *supra* note 143 at 137.

159. Nucci, *supra* note 154.

160. *Ibid.* at 78.

161. For a broad survey of this literature, see Cialdini & Trost, *supra* note 103 at 152-68; Alice H. Eagly & Shelly Chaiken, *The Psychology of Attitudes* (London: Thomson Learning, 1993) at 630-34, 642-44.

162. Asch, *supra* note 86; Sherif, *supra* note 86.

163. Sherif, *supra* note 86.

164. Charles Stangor, *Social Groups in Action and Interaction* (New York: Psychology Press, 2004) at 86.

165. J.H. Rohrer et al., "The Stability of Autokinetic Judgment" (1954) 49 *J. Abnormal & Social Psychology* 595.

166. Herbert Gintis, "A Framework for the Unification of the Behavioral Sciences" (2007) 30 *Behavioral & Brain Sciences* 1 at 2.

167. *Ibid.*

168. See S.L. Hurley & N. Chater, *Perspectives on Imitation: From Neuroscience to Social Science* (Cambridge, MA: The MIT Press, 2005); R.M. Raafat, N. Chater, C. Frith, "Herding in Humans" (2009) 13 *Trends in Cognitive Sciences* 420; G.S. Berns et al., "Neurobiological Correlates of Social Conformity and Independence During Mental Rotation" (2005) 58 *Biol. Psychiatry* 245;

There is little doubt that internalized normative beliefs are shaped by external pressures. Research regarding conformity has established this. At best one could argue that we have innate norms that are then subject to later influence. But the case for this is seriously weakened by the fact that even these norms, as discussed above, seem to be the product of social learning during childhood. Rather it would appear we do not have innate norms at all; individuals are socialized towards their normative convictions. While the tendency to internalize norms is indeed innate, the norms we end up internalizing are by no means fixed; they are highly dependent upon the individual's social environment.

All this points to one fact: the internalization of norms and the content of norms are largely separate things. This lends plausibility to the supposition that internalization is driven by other, more general factors unrelated to the particulars of norms, namely that we have an innate tendency to internalize norms in relation to the strength of the discount signal that underlies the act. Normative behavior signals a particular discount rate ranging from low to high. The relentless pulse of these binary signals of cooperation and opportunism—gives rise to an intricate matrix of normative beliefs. While a particular norm might exhibit astounding complexity and cultural nuance, we need not concern ourselves with this at all. The norm itself is of secondary importance. This baffling complexity emerges from simplicity—the internalization of discount rate signals. Individuals have been conditioned to internalize the act of signaling, though the specific norms this adaptation produces may prove evolutionarily inefficient in particular instances, as in the case of seppuku highlighted above. Indeed, evolutionary forces can sometimes generate traits that are maladaptive.¹⁶⁹ However, the internalization of signals provides an overall net survival benefit—indeed, it is instrumental to survival as it is through this process that the individual is able to identify cooperative partners.

3. How this Model can be used to answer some key criticisms plaguing Functionalism and Sociobiology

I do not wish to wander too far from the focus of our discussion; however, the present model, in fact, answers some key criticisms plaguing functionalism in general and sociobiology in particular. Let us briefly note it here and move on.

V. Klucharev et al., Reinforcement Learning Signal Predicts Social Conformity (2009) 61 *Neuron* 140; B. Wild, M. Erb, & M. Bartels, "Are Emotions Contagious? Evoked Emotions While Viewing Emotionally Expressive Faces: Quality, Quantity, Time Course and Gender Differences" (2001) 102 *Psychiatry Res.* 109; L. Nummenmaa et al., "Is Emotional Contagion Special? An MRI Study on Neural Systems for Affective and Cognitive Empathy" (2008) 43 *Neuroimage* 571; A. E. Guyer, "Probing the Neural Correlates of Anticipated Peer Evaluation in Adolescence" (2009) 80 *Child Dev.* 1000; see also Antonio Damasio, *Descartes' Error: Emotion, Reason, and the Human Brain* (New York: G.P. Putnam, 1994) at 173-80.

169. Posner, *supra* note 3 at 1724. Norms that are fitness-reducing for the group and/or the individual may nevertheless persist. See R. Boyd & P. Richerson, "Punishment Allows the Evolution of Cooperation (or anything else) in Sizeable Groups" (1992) 13 *Ethol. Sociobiol.* 171; R.B. Edgerton, *Sick Societies: Challenging the Myth of Primitive Harmony* (New York: Free Press, 1992).

(a) The Problem of Group Selection

Above, we noted the more obvious problem for functionalism: that many norms are not actually welfare enhancing at all, but rather are harmful to the group.¹⁷⁰ However, another difficulty with the functionalist contention that social norms promote the survival of the group and are therefore selected for—an idea promoted by such people as Bronislaw Malinowski, Robert Merton, Talcott Parsons, Emile Durkheim and even to some extent, Eugen Ehrlich and Friedrich Hayek¹⁷¹—is that most biologists now conclude that evolution selects either genes or individual organisms, not groups as a whole.¹⁷² This is a problem. As Robert Ellickson explains, if we assume for instance that, “honesty is a functional norm in the sense that, if all the members of a group were consistently honest, they would each be better off than if everyone were consistently dishonest ... [a] dishonest individual living in an environment of honest people might especially prosper, surrounded by easy marks.”¹⁷³ Thus, evolution would in fact tend to select dishonest individuals (note the prisoner’s dilemma dynamic). On the grand level of society, the norm may be collectively beneficial, but on the individual level, the opposite may be true. Current gene-based evolutionary theories simply cannot account for patterns of human behavior such as altruism.¹⁷⁴ Selection only operates on the level of the individual, not the group as a collective entity.¹⁷⁵

The present model in a sense sidesteps this entire problem by applying selection not to the norm itself, but rather to the signal that underpins it. Assuming even a modicum of repeated interaction, broadcasting a low-discount rate will always be evolutionarily advantageous on the level of the individual actor. There is no need

170. See *supra* notes 116-19 and accompanying text.

171. Bronislaw Malinowski, *Crime and Custom in Savage Society* (Totowa, NJ: Rowman & Allanheld, 1985 [1926]); Robert K. Merton, *Social Theory and Social Structure*, 3rd ed. (New York: Free Press, 1968 (1957)) at 1-84; Talcott Parsons, *The Social System* (London: Routledge, 1951); Emile Durkheim, *The Division of Labor in Society*, trans. by George Simpson (New York: The Free Press, 1933) at 49-229; Eugen Ehrlich, *Fundamental Principles of the Sociology of Law* (Cambridge, MA: Harvard University Press, 1936); Friedrich A. Hayek, *The Constitution of Liberty* (Chicago, IL: University of Chicago Press, 1978) at 36; see also John W. Thibaut & Harold H. Kelley, *The Social Psychology of Groups* (New York: John Wiley & Sons, 1959) at 135-42.

172. See, e.g., Richard Dawkins, *The Selfish Gene* (Oxford: Oxford University Press, 1976) at 8-12; Edward O. Wilson, *Sociobiology* (Cambridge, MA: Harvard University Press, 1975) at 106-29; J. Maynard Smith, “Group Selection and Kin Selection” (1964) 201 *Nature* 1145; G.C. Williams, *Adaptation and Natural Selection: A Critique of Some Current Evolutionary Thought* (Princeton, NJ: Princeton University Press, 1996); V.C. Wynne-Edwards, *Evolution Through Group Selection* (Oxford: Blackwell Scientific Publications, 1986). However, group selection theories have recently seen a minor resurgence although not as a fundamental mechanism for selection. Multi-level selection theory (MST) has been proposed as an evolutionary model that supports group selection. See D.S. Wilson & E. Sober, “Reintroducing Group Selection to the Human Behavioral Sciences” (1994) 17 *Behavioral and Brain Sciences* 585; D.S. Wilson & E.O. Wilson, “Evolution “for the good of the group” (2008) 96 *American Scientist* 378; See also J.H. Koeslag, “Sex, the Prisoner’s Dilemma Game, and the Evolutionary Inevitability of Cooperation” (1997) 189 *J. Theor. Biol.* 53; M.J. Wade, “An Experimental Study of Group Selection” (1977) 31 *Evolution* 134; J.H. Koeslag, “Evolution of Cooperation: Cooperation Defeats Defection in the Cornfield Model” (2003) 224 *J. Theor. Biol.* 399.

173. Ellickson, *supra* note 1 at 152.

174. Fehr & Fischbacher, *supra* note 111.

175. Dawkins, *supra* note 172; Wilson, *supra* note 172; Smith, *supra* note 172.

to resort to the aggregate effects of a specific norm on society as a whole. While functionalism attempts to find rationality in norms with reference to the entire group, the present theory accounts for norms with reference to the individual only. Thus, to use Ellickson's example of honesty: dishonesty will not be selected for because as a signal it will be immediately detrimental to the individual in that it will prevent her from securing any cooperative partners as she will not be emitting the correct signals. Thus, we do not need to look to the group; just two individuals interacting within the group is enough to provide a positive benefit from observing the norm, as the norm confers immediate value in its role as a signal (a value that only increases as the audience grows). Norms may be explained with reference to just the individual. Explanations involving collective group benefit are not required. Because any costly action, even seemingly nonsensical ones, can serve as discount rate signals, there is positive incentive for individuals to perform the action independent of any group benefit. The individual's constant hunt for new cooperative partners relies on these signals. In the costly signal theory literature discussed earlier, Herbert Gintis et al. propose costly signaling as a potential explanation of altruistic behavior (what they call strong reciprocity).¹⁷⁶ However, the advantage here is that this explanatory model can be applied to all norms, not just patently altruistic behavior—even norms of a completely arbitrary nature, such as facing the front of the elevator or using both hands to give money.¹⁷⁷ The fitness enhancing quality of norms resides in their use as signals of discount rates. Insofar as they effectively achieve this end, they will proliferate. But what is selected for is merely the internalization of norms that serve as suitable signals, not the norm itself—it is not the behavior itself that is genetically transmitted, as evolutionary psychology and sociobiology might have us believe.

(b) The Problem of Reification

This brings us directly to our second problem, which relates to the sheer complexity of social norms. This is referred to as a “reification” fallacy.¹⁷⁸ The charge often leveled at sociobiology is that behavioral dispositions like altruism cannot be contained in a gene, as altruism is an abstraction.¹⁷⁹ Complex behavior, the argument runs, cannot be compartmentalized into units that can then simply be assigned to genes—such behavior simply does not correspond neatly to a set of controlling genes.¹⁸⁰ As there is no gene for the human hand,

176. Gintis et al., *supra* note 103; see also McAndrew, *supra* note 111; Fehr & Fischbacher, *supra* note 111 at 789.

177. Using both hands when presenting someone with money or a gift is a norm in some parts of China. Having lived in China for the better part of decade, I personally internalized this norm.

178. R.C. Lewontin, “Sociobiology—A of Darwinism” (1976) 2 *Philosophy of Science Association* 22 at 24; see also Steven Rose, Leon J. Kamin & R.C. Lewontin, *Not in our Genes: Biology, Ideology and Human Nature* (New York: Pantheon, 1984) at 248; Richard Lewontin, *It Ain't Necessarily So: The Dream of the Human Genome and Other Illusions* (New York: New York Review of Books, 2001).

179. Lewontin, *supra* note 178.

180. Michael Ruse, *Sociobiology: Sense or Nonsense?*, 2nd ed. (Dordrecht, Holland: D. Reidel, 1985) at 103.

it is highly unlikely that there is one gene, for instance, for altruism or reciprocity.¹⁸¹

Geneticists long ago abandoned the naive notion that there are genes for toes, genes for ankles, genes for the lower leg, genes for the kneecap, etc. Yet the sociobiologists break the totality of human social behavior into arbitrary units, call these elements “organs” of behavior, and postulate particular genes or gene complexes for each.¹⁸²

The confusion is “whether it is sensible to talk of the “evolution of the hand” as opposed to, say, the evolution of the fingers, or of the separate parts of the fingers, or of the entire limb.”¹⁸³ The chin, for instance, in a sense, does not exist; it is composed of separate components (the alveolar and the mandibular).¹⁸⁴ There is no gene for the chin.¹⁸⁵ Genes work on a much simpler level.

What is true of anatomy is also true for abstract social behavior. It is highly implausible that complex normative behavior can be reduced to a particular gene. It just seems improbable that a norm related to xenophobia, for instance, is an evolutionary trait as sociobiologists contend.¹⁸⁶ Indeed, the general claim that humans have genetically influenced norms hard-wired into our character starts to appear rather tenuous.¹⁸⁷ This is a distinct challenge for the field of sociobiology. Sociobiology rests on the premise that there “must be genes whose action is nearly entirely concerned with the formation of the trait so that genetic variation for the trait can occur ... [o]therwise the so-called ‘trait’ is an arbitrary unit of description of the organism with no relation to the direct forces of evolution.”¹⁸⁸ Indeed, this has led some to acerbically declare that such science “is dead but doesn’t seem to know it yet.”¹⁸⁹

The present model may be of some help here. Just as genes work on a simpler level, but combine together to form grosser constructions, normative tendencies

181. Lewontin, *supra* note 178 at 25. Some critics of evolutionary psychology claim that there simply aren’t enough genes to code for a large number of innate cognitive adaptations. See Paul Ehrlich & Marcus Feldman, “Genes and Cultures: What Creates Our Behavioral Phenome?” (2003) 44 *Current Anthropology* 87.

182. Sociobiology Study Group, “Sociobiology—A New Biological Determinism” in *The Ann Arbor Science for the People Editorial Collective*, eds., in *Biology as a Social Weapon* (Minneapolis, MN: Burgess Publishing Company, 1977) 134 at 143.

183. Lewontin, *supra* note 178 at 25.

184. *Ibid.*

185. *Ibid.*

186. *Ibid.*

187. For an example of some scholars who make such claims, see, e.g., George Edwin Pugh, *The Biological Origin of Human Values* (London: Routledge, 1977); Charles L. Lumsden & Edward O. Wilson, *Promethean Fire* (Cambridge, MA: Harvard University Press, 1983); in the field of economics, see A. Schotter, *The Economic Theory of Social Institutions* (Cambridge: Cambridge University Press, 1981) at 160-64; Paul H. Rubin, “Evolved Ethics and Efficient Ethics” (1982) 3 *J. Econ. Behav. & Org.* 161; closer to the field of law, see Jack Hirshleifer, “Privacy: Its Origin, Function, and Future” (1980) 9 *J. Legal Stud.* 649; see also Owen D. Jones & Timothy H. Goldsmith, “Law and Behavioral Biology” (2005) 105 *Colum. L. Rev.* 405; Richard A. Epstein, “A Taste for Privacy? Evolution and the Emergence of a Naturalistic Ethic” (1980) 9 *J. Legal Stud.* 665.

188. Lewontin, *supra* note 178 at 25.

189. Evolutionist Paul R. Ehrlich referring to evolutionary psychology. Edward H. Hagen, “Controversial Issues in Evolutionary Psychology” in David M. Buss, ed., *The Handbook of Evolutionary Psychology* (New York: John Wiley & Sons, 2005) 151.

work on simple the level of signals. All norms, no matter how outwardly complex, can be reduced to signals expressing a discount rate. For instance, we can speak of norms regarding courting, such as a man bringing flowers for his date, just as we do the human chin, or we can speak on the more fundamental level of signals, and conceptualize the complex and arbitrary norms of behavior as basic discount rate signals. The flower ritual, or buying dinner, or even an engagement ring—is merely a low-discount rate signal.¹⁹⁰ Again, there is no genetic transmission of the norm itself, norms may arise as the result of any number of factors ranging from the historical, technological, to sheer chance; however, there is an evolved tendency to internalize norms in that they act as signals. The ability to work with signals provides a distinct survival advantage and thus does evolve in response to selection pressures. We need not concern ourselves with how norms are genetically transmitted—they are not. The inclination to internalize signals, however, is. This massive simplification makes the sociobiological argument far more plausible. There is no need to identify a vast array of genes that carry complex normative behavior, just a genetic trait that promotes the internalization of discount rate signals. Most of sociobiology's contentious assumptions regarding the modularity of cognitive, psychological, and neurophysiological systems are no longer required.¹⁹¹

(c) The problem of Genetic Transmission

Indeed, the present model offers a plausible account of how survival traits are passed on without the need to resort to complex biological explanations: we merely have an evolutionary tendency to internalize norms that serve as signals because doing so confers an individual survival advantage, we thus internalize the prevailing normative signals of whatever network we find ourselves in. Norms that emerge as standard signals then reproduce themselves through a process of cultural inheritance and social learning within a network.¹⁹² There is research that supports the idea that we have a genetic propensity to internalize signals. Gintis, for instance, formally models the supposition that if “there is one genetic locus that controls the capacity to internalize norms,” then the allele for internalization of certain fitness-enhancing norms may be evolutionarily stable.¹⁹³ However, the present model goes beyond this in not requiring a norm to be fitness-enhancing in the conventional sense. Indeed, the requirements are extraordinarily minimal. A norm's evolutionary value rests simply in its effectiveness as a discount rate signal and no more. Signal internalization is adaptive, not necessarily the norm itself. As a result, a haphazard array of culturally idiosyncratic norms may emerge as standard signals within a particular network of actors and be passed on—any norm that is a signal is adaptive. This

190. See Posner, *supra* note 5 at 71.

191. In terms of human normative behavior.

192. For social learning, see A. Bandura, *Social Learning Theory* (Saddle River, NJ: Prentice Hall, 1977) (giving an overview of theoretical and experimental advances in the field of social learning); see also T.R. Zentall, “Imitation: Definitions, Evidence, and Mechanisms” (2006) 9 *Animal Cognition* 335 (presenting an overview of various types of social learning).

193. Gintis, *supra* note 72 at 407. See also R. O’Gorman, D. Wilson & R. Miller, “An Evolved Cognitive Bias for Social Norms” (2008) 29 *Evolution & Human Behavior* 71.

would explain why, while some norms are virtually universal (due to their inherent signaling value), many norms are peculiar to specific groups of people and appear highly arbitrary (they just emerged as signaling standards).

The only biological component to this explanation is an evolved tendency to internalize discount rate signals. This bears some resemblance to Dual Inheritance Theory (DIT) or Gene-Culture Coevolution.¹⁹⁴ However, the genetic aspect here is pared down to an extraordinarily parsimonious model—individuals are merely conditioned to recognize and emit simple discount rate signals in whatever form they present themselves. These signals are profoundly binary in nature—cooperator or non-cooperator, partner or competitor. With the highly nuanced complexity of normative behavior replaced with simple high-low discount rate signals, the proposition that there may have evolved a genetic inclination to internalize specific norms (in their capacity as discount rate signals) becomes far more plausible—indeed likely.

From the point of view of evolution, the general tendency to internalize norms provides a distinct survival advantage (efficiently utilizing discount rate signals), thus it was selected for. While inefficient norms might sporadically materialize, overall, internalization is adaptive. The reason some norms are virtually universal across cultures is due to their inherent signaling nature (after all, as pointed out above, what is a clearer signal of one's uncooperative character than say eating the other person?). Norms that do not have an inherent signaling value but nevertheless evolved into signals, tend to vary from culture to culture, and over space and time. This explanation does not account so much for why there are the particular norms that there are; rather, it explains why there are social norms at all—norms as a general signaling tool provide a crucial survival benefit. As a consequence, we have evolved the propensity to internalize social norms so as to effectively (and mostly unwittingly) signal our cooperative potential to prospective economic partners.

E. Would not Bad-Types also evolve a predisposition to internalize Low Discount Rate Signals?

Still there is another question that we must address here: if signaling a low discount rate confers a survival advantage, why do bad-types not also internalize these norms? Again, the answer is that only the general tendency to internalize norms is selected for, not the norm itself. Thus, bad-types internalize norms commensurate

194. The basic premise of Dual Inheritance Theory is that human behavior evolves through both genetic and cultural processes. For Dual Inheritance Theory, see C. Lumsden & E. Wilson, *Genes, Mind and Culture: The Coevolutionary Process* (Cambridge, MA: Harvard University Press, 1981) (formulating a series of mathematical models for how genes and culture might coevolve); L. Cavalli-Sforza & M. Feldman, *Cultural Transmission and Evolution: A Quantitative Approach* (Princeton, NJ: Princeton University Press, 1981) (presenting a mathematical theory concerning the spread of cultural traits); R. Boyd & P. Richerson, *Culture and the Evolutionary Process* (Chicago, IL: University of Chicago Press, 1985) (examining the relationship between culture as a transmission system and genetic evolution); see also Peter J. Richerson & Robert Boyd, *Not by Genes Alone: How Culture Transformed Human Evolution* (Chicago, IL: University of Chicago Press, 2004) (presenting an excellent overview of the current state of cultural evolution research).

with the (equally advantageous) survival strategy they have adopted in the “society game”—opportunism. So long as there remains a substantial body of cooperators to exploit, opportunism presents itself as an evolutionarily stable strategy (ESS).¹⁹⁵ It is, in a sense, a parasitic strategy.¹⁹⁶ Opportunism (or degrees of it) thus calls for a different intensity of internalization so as to avoid troublesome moral conflicts that may prove disruptive to the strategy.

This brings me to my last claim: *The degree to which a player internalizes a signal will thus correspond with their discount rate.* If an individual values long-term cooperation with a particular network, i.e. has a low discount rate, the intensity with which she will internalize that network’s norms will be commensurate with the importance she places upon this cooperation. The lower one’s discount rate, the more intensely one will internalize the norms of the network with which one is a part. This will manifest simply as a desire to be part of the group, to belong. Conversely, the higher one’s discount rate in relation to a particular group, the less inclined one is to internalize their normative values. A strong emotional need to belong will not arise. Individuals with low discount rates, and who are thus better cooperators, will, for example, tend to see flag waving on the fourth of July and commitment to country as a noble thing (assuming that is the low-discount signal within their network).¹⁹⁷ Conversely, those with higher-discount rates will be far less moved by such sentiments. This claim is not as wild as it may appear. On the contrary, it is quite intuitive. It makes sense that an individual who is prone to cooperation will be more apt to internalize the norms of the group with which she frequently interacts, as this enhances her ability to engage in cooperation with that group.

Depending upon the normative standard in their network, low-discount rate players might deeply internalize and thus earnestly attach great importance to norms related to table manners, as with a socialite for instance, while an individual possessing a high-discount rate in the same network, despite paying lip service to the norm, might privately scoff at the “inanity” of salad forks. While most law professors have internalized the norm against plagiarism, a professional wrestler will likely not have internalized the norm quite as deeply. People with low-discount rates are evolutionarily conditioned to “appreciate” norms that signal low discount rates in their network, as doing so supports their game strategy; individuals with high discount rates are less inclined to internalize such norms, because doing so, likewise, supports their survival strategy.

It would be a mistake, however, to slot this into simple moral categories. Evolution has conditioned individuals to internalize norms to varying degrees in

195. For the concept of an evolutionarily stable strategy (ESS), see Smith, *supra* note 77.

196. The existence of sociopaths, perhaps the quintessential pure opportunist, attests to the viability of a non-cooperative strategy in evolutionary game theoretical terms. Sociopaths comprise a sizable percentage of the population, roughly 3-4% of the male population and approximately 1% of the female population. G.C. Davison & J.M. Neale, *Abnormal Psychology*, 6th ed., (New York: John Wiley & Sons, 1994); L.N. Robins, J. Tipp & T. Przybeck, “Antisocial Personality” in L.N. Robins & D.A. Regier, eds., *Psychiatric Disorders in America* (New York: Free Press, 1991) 258. Sociopaths demonstrate a “marked degree of impulsivity,” which makes sense for an individual with an enormously high discount rate. See Mealey, *supra* note 82 at 134.

197. See Posner, *supra* note 5 at 112-19.

relation to their discount rates, but this should not be confused with a definitive propensity for moral behavior. The average SS officer certainly possessed a very low-discount rate, and was an excellent cooperater. Both “flag wavers and flag burners can show that they have low discount rates, and that they are good cooperaters *within their respective groups*.”¹⁹⁸ Having a low discount rate only demonstrates that one is a team player; however, the team may be quite wicked. That said, discount rates are not entirely divorced from what in most circumstances is called “moral” behavior. Because I incorporate internalization into my model, I diverge significantly from Posner here. Posner goes to great pains to emphasize that his “good-type” and “bad-type” classification does not imply a morally good or bad individual.¹⁹⁹ However, in the *typical* normative network a pure opportunist would quite likely be seen as morally reprehensible. Of course, networks may arise that espouse quite different normative standards, a band of murderers for instance, a criminal gang, a murderous cult, and so forth. In such cases the behavior of an opportunist might ironically end up appearing quite decent by conventional standards (this idea of conflicting norm networks emerges as a central topic later in the discussion). However, a player with a high discount rate implies a proclivity to not internalize cooperation norms, thus, this would usually translate into what would commonly be defined as immoral behavior (in relation to the normative standards of most networks). Even within “deviant” networks, such as criminal gangs, norms of an explicitly immoral nature will seldom arise in regards to their own internal interactions. Indeed, bands of cannibals that eat themselves do not survive long.

1. Discount Rate will dictate Internalization Intensity

Again, my contention here is that an individual’s discount rate will determine the intensity with which a given norm is internalized, if at all. Finding themselves in situations that call for particular dinner etiquette, for example, individuals with a very low discount rate are more prone to develop a sense that these rules possess a measure of normativity (this will develop over time). They possess this tendency because this aids them in working with signals—it boosts their signaling proficiency. The lower the discount rate, the more intensely the norm will be internalized. Actors with a low discount rate are naturally more receptive to internalizing a norm. Individuals have evolved a predisposition to internalize norms in line with their discount rates, as this allows them to more efficiently engage in the signaling game.

To be sure, this relationship is somewhat of an oversimplification. Complicating the issue, as Dan Kahan points out,²⁰⁰ is the fact that the same individual might exhibit different discount rates in different circumstances and with different groups of people (their immediate family as opposed to colleagues at work for example).

198. Kristen Madison, “Government, Signaling, and Social Norms” (2001) 2001 U. Ill. L. Rev. 867 at 875.

199. See Posner, *supra* note 5 at 18.

200. Dan M. Kahan, “Signaling or Reciprocating? A Response to Eric Posner’s *Law and Social Norms*” (2002) 36 U. Rich. L. Rev. 367 at 374; see also Wendel, *supra* note 44 at 38.

There is empirical evidence that this is the case.²⁰¹ Thus an individual might deeply internalize the norms of a certain group and yet hardly internalize the normative beliefs of other networks (Posner does acknowledge this to some extent, but defends the assumption that individuals possess a single discount rate as “a useful simplification for expository purposes”²⁰²). While it might be tempting to conclude that criminals who fail to internalize society’s most serious norms are likely candidates to have a high discount rate, and are therefore less receptive to internalization in all situations, such a conclusion would be misplaced. A mob enforcer, for example, might flout society’s most fundamental conventions while deeply internalizing the norms of his criminal organization. While a complication, this does not, however, undermine the contention that a norm is internalized commensurate with one’s discount rate; it is simply one’s discount rate in relation to that specific group—as Kahan points out, it is “context specific.”²⁰³ Although an individual will exhibit a general discount rate, this might not be the case in certain instances and in relation to certain groups. As Russell Hardin writes, “one might argue that people are able to compartmentalize their behaviors and that I might be cooperative in some contexts and not in others.”²⁰⁴ The Expanded Signaling Model does not assume that an individual’s discount rate does not fluctuate depending on the group environment. A criminal will exhibit a high discount rate in most situations, though not necessarily in all situations. When people engage in the signaling game, they are concerned with the discount rate the other party has in relation to them within the context of the specific network they are both a part—their level of commitment to that particular community. This idea of conflicting norm networks is examined later where it is treated as the central topic of discussion.

2. The Evidence

My claim here is merely that the discount rate an individual possesses in relation to the network she is in will determine the degree to which she will internalize the norms of that network. The greater importance an individual places upon cooperation with a particular group, i.e. the higher her discount rate is in relation to that group, the more she will tend to internalize that group’s norms. Studies on conformity strongly support this contention.²⁰⁵ When perceived interdependence, and thus the value members place upon cooperation, increases in a group, normative conformity has been shown to be twice that of a noninterdependent group.²⁰⁶ Research shows individuals even “mimic the facial expressions, vocal expressions, postures, and instrumental behaviors of those we value in order to enhance our

201. See, e.g., Thaler, *supra* note 42 at 92-106.

202. Posner, *supra* note 16 at 476.

203. Kahan, *supra* note 200.

204. Russell Hardin, “Law and Social Norms in the Large” (2000) 86 Va. L. Rev. 1821 at 1822.

205. See E.E. Jones, H.H. Wells & R. Torrey, “Some Effects of Feedback from the Experimenter on Conformity Behaviour” (1958) 57 J. Abnormal and Social Psychology 207; J.W. Thibaut & L.H. Strickland, “Psychological Set and Social Conformity” (1956) 25 J. Personality 115.

206. M. Deutsch & H.G. Gerard, “A Study of Normative and Informational Social Influence upon Individual Judgment” (1955) 51 J. Abnormal and Social Psychology 629.

connection with them.”²⁰⁷ One theory for the slight variance in conformity found between cultures is that societies that require a high degree of interdependence, such as non-industrialized high-food accumulating cultures, demonstrate more intense levels of norm conformity.²⁰⁸

It would be interesting to empirically test the supposition that discount rates determine the intensity of internalization more directly. While Posner suggests testing his general thesis in a controlled environment,²⁰⁹ one could carry this further and specifically examine the intensity of internalization. Indeed, it should be possible to conduct such a study if one could conclusively identify an individual’s approximate discount rate in a specific setting and construct a measure of how deeply a norm is internalized, which although logistically challenging, seems possible. The hypothesis is therefore, in principle, experimentally falsifiable. Failing this, however, even casual empirical observation seems to support the proposition that the intensity with which an individual internalizes a norm is commensurate with her discount rate regarding that group. For example, the complete lack of internalized values exhibited by the sociopath, the consummate opportunist, seems to validate this claim.²¹⁰ One would expect an individual with a high discount rate to show a significant lack of internalization. The fact that a sociopath, who sits at one far end of this spectrum possessing a complete absence of internalization, also displays an extremely high discount rate, strongly suggests a correlation between the two. The extent to which the clinical definition of a sociopath conforms to our definition here of a high discount rate player is striking.

The DSM-IV definition of sociopathy reads: “Antisocial personality disorder is characterized by a lack of regard for the moral or legal standards in the local culture.”²¹¹ The salient point is the complete absence of internalization. Characteristics in respect to this include: a disregard for social norms, rules, and obligations; an incapacity to experience guilt; a callous unconcern for the feelings of others; a lack of the capacity for empathy;²¹² failure to conform to social norms with respect to lawful behavior; a lack of remorse;²¹³ and a tendency to be deceitful and manipulative²¹⁴ The Diagnostic Criteria also clearly enumerates characteristics which we would expect of an individual possessing a very high discount rate, almost reading like a shopping list for this kind of personality: failure to plan ahead; impulsivity; reckless; unable to sustain consistent work behavior; failure to honor financial

207. Cialdini & Trost, *supra* note 103 at 166; See E. Hatfield, J.T. Cacioppo & R.L. Rapson, *Emotional Contagion* (Cambridge: Cambridge University Press, 1994).

208. J.W. Berry, “Independence and Conformity in Subsistence-Level Societies” (1967) 7 *J. Personality & Social Psychology* 415.

209. Posner, *supra* note 5 at 36.

210. Indeed, the “defining characteristic of sociopaths is their apparent lack of sincere social emotions ...” Mealey, *supra* note 82 at 135. In the context of our present discussion sociopathy can thus be understood as adaptive; it is a viable evolutionary strategy, accounting for its resilient presence in human psychology.

211. *Diagnostic and Statistical Manual of Mental Disorders Dsm-Iv-Tr 701*, 4th ed. (Arlington, VA: American Psychiatric Association, 1994).

212. Robert D. Hare, Stephen D. Hart & Timothy J. Harpur, “Psychopathy and the DSM—IV Criteria for Antisocial Personality Disorder” (1991) 100 *J. Abnormal Psychology* 391 at 398.

213. *Ibid.* at 397.

214. *Ibid.* at 398.

obligations;²¹⁵ poor behavioral controls;²¹⁶ irresponsible; incapacity to maintain enduring relationships; very low tolerance to frustration and a low threshold for discharge of aggression;²¹⁷ promiscuous sexual behavior; need for stimulation/prone-ness to boredom; parasitic lifestyle; lack of realistic, long-term goals.²¹⁸

Other descriptions of antisocial personality indicate an extremely high discount rate, such as a failure to follow any life plan and unreliability.²¹⁹ Sociopaths do not perform well in situations that require delayed gratification.²²⁰ The avoidance of immediate costs is a much stronger motivation than the avoidance of future punishment.²²¹ Approximately “33% to 80% of the all chronic criminal offenders in the United States are clinical sociopaths.”²²² One study found that approximately 75% of the male prison population in Canadian federal prisons met the criteria for antisocial personality disorder.²²³ It stands to reason that convicted criminals having failed to internalize certain core norms of the society they are a part of, should demonstrate a generally high discount rate. And indeed studies have found a predictable relationship between criminal behavior and an individual’s discount rate.²²⁴ In a sociopath, a high discount rate and lack of internalization characteristics go hand in hand. Their causal relationship, however, is not conclusive: one could in theory argue that a lack of internalization causes a high discount rate, or both are caused by a third factor. However, that there is a correlation between the two is clear. While a one-to-one correspondence cannot be conclusively established (this would require an empirical study of the kind suggested above), it is extremely plausible that there is a connection between the two. Indeed, it points heavily towards this conclusion.

215. *Ibid.* at 397.

216. *Ibid.* at 398.

217. *Ibid.*

218. *Ibid.*

219. Hervey Cleckley, *Mask of Sanity: An Attempt to Clarify Some Issues about the so-called Psychopathic Personality*, 5th ed. (Augusta, GA: 1988 [1941]) at 338-39.

220. L. Pulkkinen, “The Role of Impulse Control in the Development of Antisocial and Prosocial Behavior” in D. Olweus, J. Block & M. Radke-Yarrow, eds., *Development of Antisocial and Prosocial Behavior: Research, Theories, and Issues* (New York: Academic Press, 1985).

221. Mealey, *supra* note 82 at 166; see also R. Christie & F.L. Geis, *Studies in Machiavellianism* (New York: Academic Press, 1970); J. Mccord, “The Psychopath & Moral Development” in W.S. Laufer & J.M. Day, eds., *Personality Theory, Moral Development, and Criminal Behavior* (Toronto, ON: Lexington Books, 1983) 357; A. Raine, “Antisocial Behavior and Social Psychophysiology” in H.L. Wagner, ed., *Social Psychophysiology and Emotion: Theory and Clinical Application* (New York: Wiley, 1988) 231; A. Raine, “Evoked Potentials and Psychopathy” (1989) 8 Int’l J. Psychophysiology 1; A.E. Forth & R.D. Hare, “The Contingent Negative Variation in Psychopaths” (1989) 26 Psychophysiology 676.

222. Herbert Gintis et al., “Gene-Culture Coevolution and the Emergence of Altruistic Behaviour in Humans” in Charles B. Crawford & Dennis Krebs, eds., *Foundations of Evolutionary Psychology* (Florence, KY: Psychology Press 2008) 325. See Mealey, *supra* note 82 at 133.

223. Correctional Service of Canada, “A Mental Health Profile of Federally Sentenced Offenders” (1990) 2 Forum on Corrections Research 7. Note that I am here using antisocial personality disorder synonymously with sociopathy.

224. Gary S. Becker, Michael Grossman & Kevin M. Murphy, “Rational Addiction and the Effect of Price on Consumption” (1991) 81 Aea Papers and Proceedings 237; see also Edward L. Glaeser, “Economic approach to crime and punishment” in Peter Newman, ed., *The New Palgrave Dictionary of Economics and the Law* (New York: Palgrave Macmillan, 1998).

3. *Tastes do not undermine signal clarity*

From the point of view of the individual actor, however, this complex interplay of discount rate signals is rarely clearly conceptualized, there is typically no cost-benefit analysis performed; rather such norms are seen through the veil of internalized values, emotion and morality. We have it exactly backwards: it is not that people who value charity adopt charitable norms; it is that people with low discount rates internalize charitable norms (because this signal corresponds with their discount rate) making them “charitable people.” Thus, when evolutionary psychology and sociobiology speak of the evolutionary advantage of certain emotions, what they are really speaking of is the evolutionary advantage of certain emotions in that they aid the individual in playing this all-important signaling game, upon which the entire enterprise of human cooperation depends, and thus individual survival. Internalization imperceptibly steers our actions towards the correct sending and receiving of discount rate signals.

I part company with Posner here. In fact, Posner eschews all “taste” theories of behavior, arguing that individuals engage in behaviors such as sending gifts, voting, and racial discrimination in order to emit the correct signals.²²⁵ Posner contends that his signaling model requires that there be as little ambiguity, or “noise,” as possible, as ambiguity will undermine the signal.²²⁶ Individual tastes therefore present a problem in Posner’s model, as they muddy the clarity of the signal in that it becomes unclear whether an actor is performing a costly behavior to signal a low discount rate or merely to satisfy an intrinsic preference: “differences in tastes produce ‘noise’—a costly behavior may reflect a bad type acting to satisfy a preference rather than a good type signaling a low discount rate. Uncertainty over a person’s tastes creates uncertainty over his type, whatever his behavior.”²²⁷

I diverge from Posner in that I do not see tastes as necessarily undermining a signal’s clarity. Indeed, in my model, preferences as they relate to norms are a product of these signals. A taste for the signal does not undermine its clarity because individuals are conditioned to develop a taste for the signal in line with their discount rate; that is, they will internalize the norm. Posner explains that his model “does not assume that good types have a ‘taste’ for cooperation or are altruistic.”²²⁸ I, however, acknowledge the existence of “tastes.” Individuals internalize behaviors in relation to the discount rate signal the act expresses, and doing so develop certain preferences. Tastes as they are conceptualized here arise in conjunction with normative signals to blindly guide the individual’s behavior, transforming the individual into an unwitting, but highly proficient player of the signaling game. Individuals do develop a taste for cooperation or altruism; however, this taste evolves in response to these signals, not the opposite way around. Individuals with low discount rates are inclined to internalize signals that convey a comparable discount rate, developing “tastes” for such behaviors. This makes them more prone to engage

225. Posner, *supra* note 5 at 1-8, 49-50, 122-24, 133.

226. *Ibid.* at 35.

227. McAdams, *supra* note 2 at 672.

228. See Posner, *supra* note 5 at 18.

in those behaviors, and react “correctly” when perceiving the behavior in others. Thus, individual preferences do not work to undermine a signal’s clarity; they are in fact a product of the signal.

To be sure, the process is so entrenched we hardly conceptualize these behaviors as signals at all; rather, for the most part, we send and receive signals all on the purely internalized level of emotion, value, and morality. We do not, for instance, see non-cooperative individuals as failing to emit a low discount signal; rather we see them as being selfish twits, or just plain rude. However, the end result is the same: they are recognized as unpromising cooperative partners and rejected. Particular instances of idiosyncratic preferences that coincidentally overlap with highly specialized signals may still present a problem—refraining from touching others with one’s left hand in Muslim society not out of deference to custom, but because one has an injured left hand, for example. However, these instances represent a small minority of signal situations. If it is a norm that members of a certain group all shave their heads, but I do so only because I want to conceal my baldness, I will have inadvertently stumbled upon the norm. However, behaviors that allow for this sort of unintentional signaling too much will not tend to emerge as a norm in the first place precisely because they lack signal clarity. Developing a taste for the norm itself, however (for instance, preferring to wear a tie and suit), is not an issue, because whether an individual develops such a taste will largely depend upon their discount rate and norm network.

This answers Posner’s main complaint regarding normative theories that incorporate internalization. Posner laments that such models do not allow us “to make predictions about when fear of guilt deters people from engaging in certain actions and when it does not, or what kinds of people feel guilt and what kinds of people do not.”²²⁹ By tethering Posner’s theory to an evolution-based explanation of internalization, the Expanded Signaling Model allows for such predictions. Guilt, to use Posner’s example, will depend on one’s discount rate; low-discount rate types will internalize norms of groups with which they value cooperation. Posner also charges that, “Most theories of law and social norms that rely on internalization essentially treat social norms as exogenous . . . if a social norm exists, these theories assume that people have a ‘taste’ not to violate it.”²³⁰ The Expanded Signaling Model assumes the existence of tastes, but these tastes are a product of the signaling game Posner describes—they are not exogenous. They arise commensurate with the signaling value that underlies the behavior, which allows us to predict which types of behaviors will arise and be internalized and by who. Opportunists (those with high discount rates) will tend to not develop a taste for behaviors that signal a low discount rate.

4. *Opportunism is adaptive*

Opportunists do not evolve a predisposition to internalize low discount rate signals because, for such individuals, opportunism represents a viable game strategy. The

229. *Ibid.* at 43.


230. *Ibid.* at 44.

internalization of such behaviors would undermine their ability to deploy such a strategy. Opportunism too is adaptive.²³¹ This accounts for why norms are not perfectly internalized across the board. Internalization will correspond with the agent's strategy (i.e. their discount rate).²³² As we discussed earlier, the answer to the puzzle of "irrational" norm compliance is that norms are internalized. This, however, begs the question of how a tendency to internalize norms to the point where it is ever personally disadvantageous could evolve, as it seems that at times a less intense degree of internalization would be evolutionarily more efficient.²³³ This is a correct assumption; and indeed this is precisely what we see with individuals who are predisposed to less intense degrees of internalization—i.e. opportunists, or those who simply lean further that way. Varying degrees of opportunism made possible by different internalization intensities will confer tremendous benefit upon an individual in certain circumstances. Opportunists have learned to take advantage of these windows of opportunity.

Classifying players as pure opportunists or pure cooperators is oversimplifying the matter quite a bit; there are many shades in between, with individuals exhibiting a wide range of discount rates.²³⁴ As I mentioned, the same individual might even display varying discount rates in different situations. Indeed, it is quite rare to find a pure opportunist (as it is a pure cooperator). Such a player would in fact meet the clinical description of a sociopath (and a pure cooperator, a saint). What is more common is to find degrees of opportunism as expressed in higher and higher discount rates.²³⁵ The upshot is that the ESS in the society game is not necessarily a pure strategy like Tit-for-tat, but rather is a mixed strategy,²³⁶ where "either individuals exhibit different behaviors in different circumstances, or the population is composed of stable proportions of individuals exhibiting different behaviors in all circumstances."²³⁷ Indeed, selection pressures may induce two or more strategies to stabilize in some proportion, between or within individuals: Hawk (opportunist) or Dove

231. See L. Mealey, "The Sociobiology of Sociopathy: An Integrated Model" (1995) 18 *Behavioral and Brain Sciences* 523 (identifying hypothetical ancestral conditions that would make sociopathy adaptive); but see Wim E. Crusio, "The Sociopathy of Sociobiology" (1995) 18 *Behavioral & Brain Sciences* 552 (charging that Mealey's evolutionary reasoning is logically flawed, and the import of the cited genetic evidence exaggerated).

232. The gender gap in sociopathy rates is interesting ("3%-4% of the male population and less than 1% of the female population"). See Mealey, *supra* note 82 at 133. One possible explanation for this gap is that as the physically stronger gender, males were evolutionarily better positioned to pursue an opportunist strategy based on aggression. This could go far in explaining the higher rates of criminality and propensity towards violence found in males.

233. The limits of even deeply internalized norms speaks to this fact. Even the strongest cooperators may abandon their moral convictions given the right circumstances. Consider situations of mass panic, or life and death me-or-you situations, where feelings of right and wrong fall by the wayside to facilitate survival. We even accept this inherent normative flexibility to a degree in others; for instance, we judge less harshly an individual who takes an innocent life when a gun is held to their own head. This assumption is so deep-seated, in fact, this is a legal defense,  the defense of necessity. See *infra* notes 241-42 and accompanying text.

234. Posner, *supra* note 5 at 19.

235. See Mealey's concept of secondary sociopaths, Mealey, *supra* note 82 at 163; see also the "Mach" scale (as in Machiavellian) developed by Christie & Geis, *supra* note 221.

236. J. Maynard Smith, *Evolutionary Genetics* (Oxford: Oxford University Press, 1989) at 126-36; see also K. Hawkes, "Sharing and Collective Action" in Eric A. Smith & Bruce Winterhalder, eds., *Evolutionary Ecology and Human Behavior* (New York: Walter de Gruyter, 1992) 269 at 281.

237. Nielsen, *supra* note 76 at 278.



(Cooperator).²³⁸ The varying intensity of internalization will therefore reflect the different strategies employed by pure opportunists, pure cooperators and every gradation in between. The society game can sustain multiple strategies, thus we see various levels of norm internalization to support these various strategies. Some socialites place more importance on correct table manners than others.

Cooperation may emerge as a dominant strategy of sorts; however, with the growth of this strategy, there will be a tag-along effect where a smaller proportion of the population can effectively deploy an opportunistic strategy, exploiting the existence of a cooperation-prone majority. Thus an opportunist strategy “is to be expected in the population at relatively low frequencies in a demographic pattern consistent with what we see in contemporary societies. This strategy is also expected to appear preferentially under certain social, environmental, and developmental circumstances ...”²³⁹ There is considerable research that suggests sociopathy is not merely learned, but has a substantial genetic basis.²⁴⁰ Put in different terms, a certain percentage of the population is genetically predisposed towards having a high discount rate, and therefore towards a lack of internalization. Indeed, Linda Mealey contends that, “there is a genetic predisposition underlying sociopathy which is normally distributed in the population ...”²⁴¹ And that, “this underlying genetic continuum is evident in many of us, becoming apparent only at those times when immediate environmental circumstances make an antisocial strategy more profitable than a prosocial one.”²⁴² A population of pure cooperators is therefore difficult to achieve, as the dominance of this strategy will open the door to a small amount of opportunism riding upon the coattails of its success (there will, however, exist an optimum level for opportunism as the parasite cannot kill its host). This would account for why sociopathy’s syndromal structure is stable across cultures though rates vary.²⁴³ Evidence indicates that sociopathy is present in most societies and at most points in historical time.²⁴⁴ Antisocial personality behavior “occurs and is recognized by every society, no matter what its economic system, and in all eras ... although its prevalence varies with time and place ...”²⁴⁵ Changes in certain societies that allow

238. See Smith, *supra* note 77 at 164-66.

239. Mealey, *supra* note 82 at 135 (speaking about sociopathy).

240. F. Schulsinger, “Psychopathy: Heredity and Environment” (1972) 1 *Int’l J. Mental Health* 190; R.J. Cadoret, “Psychopathology of Adopted-Away Offspring of Biologic Parents with Antisocial Personality” (1978) 35 *Archives of General Psychiatry* 176; R.R. Crowe, “An Adoption Study of Anti-Social Personality” (1974) 31 *Archives of General Psychiatry* 785; R.J. Cadoret & Cain, “C. Sex Differences in Predictors of Antisocial Behavior in Adoptees” (1980) 37 *Archives of General Psychiatry* 1171; R.J. Cadoret, E. Troughton & T.W. O’Gorman, “Genetic and Environmental Factors in Alcohol Abuse and Antisocial Personality” (1987) 48 *J. Studies on Alcohol* 1; R.J. Cadoret & M.A. Stewart, “An Adoption Study of Attention Deficit/Hyperactivity/Aggression and their Relationship to Adult Antisocial Personality” (1991) 32 *Comprehensive Psychiatry* 73.

241. Mealey, *supra* note 82 at 135.

242. *Ibid.*

243. David J. Cooke et al., “Searching for the Pan-Cultural Core of Psychopathic Personality Disorder” (2005) 39 *Personality and Individual Differences* 283.

244. David J. Cooke, “Psychopathy Across Cultures” in David J. Cooke, Adelle E. Forth & Robert D. Hare, eds., *Psychopathy: Theory, Research, and Implications for Society* (Boston, MA: Kluwer Academic Publishers, 1997) 13 at 14.

245. Robins, Tipp & Przybeck, *supra* note 196 at 259.

for a higher rate of viable opportunism might account for the slight variance in rate of sociopathy between cultures; the respective strategies are locked into slightly different equilibriums. Nevertheless, there is a “*small, cross-culturally similar, and unchanging baseline frequency of sociopaths*: a certain percentage of sociopaths ... will always appear in every culture, no matter what the sociocultural conditions.”²⁴⁶ A community of cooperators will inevitably yield low frequencies of people adopting opportunistic strategies in dynamic equilibrium with shifts in the environment.²⁴⁷ Thus, we do not see equal levels of signal internalization, but rather observe its presence to varying degrees.

But even so, overall, the internalization of low discount signals has been selected for (probably because opportunism as a strategy becomes grossly dysfunctional if it becomes the majority). We see a very advanced degree of cooperation between all types. Indeed, even the least cooperative individuals (apart from pure sociopaths) have internalized the especially strong low-discount signals, such as the interdiction against murder.

5. *Opportunists still know how to play the Game*

An important point: the fact that opportunists do not internalize norms as intensely does not at all imply that they have not learned the signaling game. It is simply that their evolutionarily stable strategy of opportunism does not call for such internalization. Internalizing the norm will undermine their ability to employ their strategy when defection opportunities arise. It will be to their advantage, however, to consciously mimic (along a rational choice model) low discount rate signals when it serves their purposes. That is, when the costs to do so are not prohibitive in relation to their limited time horizons.²⁴⁸ It is interesting that sociopaths, pure opportunists, often display a remarkable intellectual grasp of basic social norms (though not a genuine belief), commonly including a superficial veneer of sociability and charm.²⁴⁹ Posner might as well be referring to a sociopath when he writes, “When the signal consists of conformity to manners, clothing styles, and linguistic trends, people are vulnerable to the con artist, who exploits people because his unusual skills and idiosyncratic tastes enable him to mimic signals more cheaply than ordinary bad types.”²⁵⁰ Indeed, the sociopath is the consummate rational actor unfettered by the chains of internalized norms. It is only with these types that a pure rational actor model really applies, as internalization plays no role in their decisions regarding norm conformity. This is why, as Posner points out, signals are useful only if they truly create a separating equilibrium through their cost structure.²⁵¹ While opportunists have not internalized these norms (or at least not as intensely), they

246. Mealey, *supra* note 82 at 163.

247. *Ibid.* at 138.

248. Posner, *supra* note 5 at 22.

249. Ian Pitchford, “The Origins of Violence: Is Psychopathy an Adaptation?” (2001) 1 *The Human Nature Rev.* 28 at 28.

250. Posner, *supra* note 5 at 22.

251. *Ibid.* 19-21.

are still quite able to “read” low-discount signals, as doing so plays a crucial role in their strategy of exploiting cooperators. Thus opportunists have also “mastered” the signaling game; they just play a different strategy.

III. This Model as an answer to criticisms of the Signaling Theory of Norms

A rigid insistence upon a rational choice model leaves one with an imperfect framework to work within. The level of “insight that can be squeezed out of a theory which treats morality, emotions, commitments, and departures from ideals of economic rationality as peripheral concerns is limited.”²⁵² It is incongruent with reality, and can quickly devolve into downright silliness. As a result, the criticisms of such a model often equally lack nuance. In reality, both rational choice and approaches that emphasize internalization have something vital to offer. There is a clockwork-like rational model underpinning the jumbled mess of emotion and normative belief that frames our actions—it is the rationality of survival expressed through evolution. Having fastened internalization to Posner’s signaling model, we are in a good position to reexamine the problem. Armed with this expanded model, let us now turn to some of the criticisms that have been leveled at Posner’s thesis that we have not yet touched on, and see where we stand. I will deal here primarily with the strongest of these arguments. To the charge that I answer each of these criticisms with the same explanation: internalization, I would respond that this is exactly the point—once internalization is brought into the model, these attacks lose all footing, because they stem entirely from Posner’s failure to incorporate internalization into his model.

A. *Why signal in private?*

A chief objection to Posner’s model is that it fails to explain why individuals conform to norms in private. Why broadcast a signal if there is no one to receive it? Kahan makes this charge in relation to tax compliance, arguing that reputational considerations are undercut by the fact that the release of information regarding tax compliance is restricted.²⁵³ Posner himself acknowledges this conundrum.²⁵⁴ Neil Duxbury and Brad Wendel make the same point.²⁵⁵ Wendel,²⁵⁶ as does Duxbury,²⁵⁷ cites voting as an example of norm compliance that apparently stands outside the reach of Posner’s thesis, as it is typically an anonymous act. Duxbury points to refraining from littering in private,²⁵⁸ tipping,²⁵⁹ and privately held racist views²⁶⁰ as further illustrations of this hole in Posner’s theory.

252. Wendel, *supra* note 44 at 40.

253. Kahan, *supra* note 200.

254. Eric A. Posner, “Law and Social Norms: The Case of Tax Compliance” (2000) 86 Va. L. Rev. 1781 at 1807.

255. See Wendel, *supra* note 44 at 27; Duxbury, *supra* note 48 at 725-33.

256. Wendel, *supra* note 44 at 36.

257. Duxbury, *supra* note 48 at 732.

258. *Ibid.* at 725.

259. *Ibid.* at 727.

260. *Ibid.* at 733.

As stated earlier, the answer to why individuals conform to these norms in private is simple and verifiable through personal experience: individuals conform to these norms because they have been internalized. Individuals do not cheat on their taxes because they feel it is the right thing to do, they vote out of patriotic duty, and they refrain from littering because they respect the environment. This is not an issue in the Expanded Signaling Model as it acknowledges the reality of internalization as a chief motivation for norm compliance. Yet, what these critics fail to recognize is that evolution has conditioned individuals to internalize norms precisely because doing so enhances the individual's ability to play Posner's signaling game. Posner's vision of rational choice may be an overgeneralization, however, he is not wrong in that the signaling game underpins the internalization of norms.

B. Do people consciously signal Discount Rates?

The notion that people follow social norms because they wish to communicate their discount rate is another target of criticism.²⁶¹ Wendel argues that it is simply not "reasonable to assume that people who follow the vast majority of social norms do so because they *intend* to communicate information about their discount rate."²⁶² "Tastes" often play an important role in influencing an individual's choice of signals.²⁶³ The underlying motivation for norm compliance is invariably grounded in some perceived value.²⁶⁴ Indeed, individuals are not conscious of social norms as discount rate signals. The notion that they are is just plain weird. They are not rational calculations; they are emotional assessments. For the average actor, the two are inseparable. We stare perpetually through a prism of emotion. Even when norm conformity is the product of instrumental calculation, the traveler in a foreign culture for instance, the act is not conceptualized as signaling one's discount rate. Wendel argues that Posner is essentially blinded "to the varied reasons that people have for following norms, many of which are not related to their desire to signal discount rate." For instance, other reasons include "[t]he desire to be "cool," by wearing clothes that are in fashion, a feeling of solidarity with one's fellows ... or simply mindless conformism ..."²⁶⁵ Wendel points out that other considerations often lie behind flag waving, for instance, such as patriotism, or even jingoism.²⁶⁶

Not only does this point not undermine the present model, it is in fact one of its central contentions. Individuals internalize group norms commensurate with their discount rate as it relates to that particular group. The internalized norm then serves as the primary motivation for norm compliance, not a calculated decision to communicate one's discount rate. People with a low discount rate in relation to a group that espouses norms of patriotism, will herself tend to be a patriot. A good

261. See Wendel, *supra* note 44 at 25, 29; Madison, *supra* note 198.

262. Wendel, *supra* note 44 at 37.

263. Madison, *supra* note 198; see also Elmer J. Schaefer, "Predicting Defection" (2002) 36 U. Rich. L. Rev. 443 at 445-46 (pointing out that people signal to communicate other characteristics besides discount rates).

264. Wendel, *supra* note 44 at 29.

265. *Ibid.* at 25.

266. *Ibid.* at 34.

example of this is religious belief. The vast majority of individuals who boast deeply held religious beliefs subscribe to the very religion in which they were raised to believe. People tend to prefer the food, clothing, drama, customs, and even political beliefs of the particular cultural group to which they belong. Our preferences and beliefs gradually bend to that of the groups with which we value membership.²⁶⁷ In truth, even “mindless conformism” is not that mindless. In this model, tastes related to norms arise in response to the discount rate that undergird a signal, not the other way around.

This also answers the related criticism made by Wendel that “observers must have at least approximate information about the tastes of others, so that they can filter out the actions resulting from habit, and concentrate solely on costly, observable actions that are related to the actor’s discount rate.”²⁶⁸ Again, the tastes of others as they relate to normative behavior will reflect their discount rate in relation to their norm network—business men will tend to prefer the look of neckties, a rapper, the look of gold chains; a soldier will admire acts of valor in combat, while a catholic priest will likely highly esteem the act of forgiveness.

C. The Elderly and the Affluent: Groups that should not signal

Posner’s strange insistence upon ignoring internalization seems to have invoked some equally strange criticisms of his theory. For instance, McAdams argues that Posner’s model leads us to the assumption that older people will obey norms less because “[a]s an individual approaches death, his need for additional cooperative relations falls.”²⁶⁹ Thus, they will “signal less as they approach the end of their lives.”²⁷⁰ As this is clearly not the case, McAdams argues, the signaling model is flawed. This is a rather unsophisticated argument (in fact, it would seem that the elderly’s need for cooperative relations should actually increase as they are made more vulnerable by age; if McAdams’ point is something akin to the idea of backward induction²⁷¹ in finitely repeated games—where, knowing the final round of cooperation precludes future cooperation, the incentive to cooperate vanishes, thus causing a knock-on effect to the second-to-last round and so on—it is a rather bizarre contention, as most people do not know exactly when they will die.) McAdams, however, does level more substantial criticisms at Posner. McAdams argues that there should be less norm compliance in small, stable, integrated groups, as there is less need to signal discount rates if one’s character is already well established.²⁷² Mahoney similarly concludes that there should be less signaling in very small groups (because individuals’ discount rates are already well-known), but also points out that the same holds true for very large groups because any value

267. See *supra* notes 161-68, 205-08 and accompanying text.

268. Wendel, *supra* note 44 at 32.

269. McAdams, *supra* note 2 at 666.

270. *Ibid.*

271. See R. Luce & H. Raiffa, *Games and Decisions: An Introduction and Critical Survey* (New York: John Wiley & Sons, 1957) at 98-99.

272. McAdams, *supra* note 2 at 664.

in signaling is undercut but the fact that the chance that one will encounter the same person again is unlikely.²⁷³ Mahoney even argues signaling should be markedly less present between family members.²⁷⁴ Mahoney also posits that, according to Posner's model, very wealthy individuals should be less inclined to engage in signaling, as their wealth and status already serves as a clear indication of their low-discount rate.²⁷⁵

Again, the Expanded Signaling Model in that it incorporates internalization deflates these criticisms. The answer is that the signaling game is not this simplistic; norms are internalized. Normative beliefs are, for the most part, etched into the individual's core character; they are not simply a game strategy (at least not consciously) to be deployed in certain situations (though this may be true for less internalized norms, such as formal manners). Thus, the elderly will not abandon their normative beliefs simply because they have less time left to cash in on the utility gained from signaling. The fact that, as McAdams writes, "the elderly often lament the fact that new generations do not respect the norms that the elderly grew up with, and ... find it impossible to stop engaging in behavior that was once obligated by norms but is no longer expected or appreciated ..."²⁷⁶ speaks to the fact that these norms have become deeply internalized over time, and particular to their social (age) group. The same reason we conform to norms in private applies to interactions with very small or large groups: the norm is internalized and therefore felt to be normatively valid. It becomes ingrained through our repeated interactions in mid-sized groups of individuals with whom we are less acquainted, which is often. This tendency emerged over the long course of evolution. That said, however, it should be noted that many social norms (less internalized ones) are actually dispensed with when interacting with close relations: certain social formalities that do not have any inherent signaling quality to them, such as an exaggerated attention to politeness. Likewise, large cities of strangers often demonstrate a less vigorous adherence to norms of politeness. As for Mahoney's point regarding wealthy individuals not needing to signal, the response is that the tendency to internalize norms is a deeply entrenched human instinct incrementally wrought by the winnowing force of evolution over inconceivably long stretches of time. It is not something for only the less affluent.

D. Other more cost-effective ways to communicate Discount Rates

Another criticism of Posner's model centers around the idea that signaling is not necessarily the most cost effective form of communicating one's discount rate. McAdams makes this charge,²⁷⁷ as does Wendel.²⁷⁸ McAdams posits that, "... it

273. Paul G. Mahoney, "Norms and Signals: Some Skeptical Observations" (2002) 36 U. Rich. L. Rev. 387 at 392.

274. *Ibid.* at 391.

275. *Ibid.* at 394.

276. McAdams, *supra* note 2 at 666.

277. *Ibid.* at 655.

278. Wendel, *supra* note 44 at 31.

is unlikely that people would invest as heavily in signaling as Posner assumes because there are more direct, less ambiguous ways to attract cooperative partners.²⁷⁹ Individuals can, Wendel argues, “order credit reports, use professional networks as information-gathering devices, read articles in the trade press about the stranger ... and in extreme cases, hire private investigators to find out about the potential cooperative partner’s background.”²⁸⁰ This argument stems from the simplistic conception of signaling as a conscious undertaking. Again, in the present model, norm internalization is the product of natural selection. It is an evolved trait, and has little to do with conscious efforts to investigate someone’s discount rate. People do not consciously search for reliable transaction partners; this is a rather crude understanding of signaling.

E. Different Incentive Structures convey different signals

Finally, Hardin asks why “radically different incentive structures should be seen as de facto similar.”²⁸¹ Hardin contrasts cooperation in dyadic relationships with tax compliance, arguing that the incentives to not cheat are very different.²⁸² “I cannot imagine,” Hardin writes, “that there is any plausible answer to it.”²⁸³ Indeed, there is no reason to assume that they are the same. However, they are certainly not without any connection. Hardin’s critique, like Posner’s model, errors in that it is grounded upon the assumption that norm compliance in these two instances is a purely rational decision. My decision to not cheat you in our dyadic dealings is to gain benefits from future cooperation; my decision to not cheat on my taxes is purely out of fear of sanctions. Internalized values, however, often play a strong role in these decisions, and while cheating on my taxes does not necessarily imply that I will cheat my close friend (though it does edge me closer in that direction), not cheating on my taxes (where I could otherwise with impunity) does strongly suggest that I will not cheat a close friend. If a stranger is willing to steal from her own mother, it is safe to assume she is willing to steal from you, as this signals the extent to which the norm has been internalized. Norm compliance in different contexts are not identical signals, but they often point generally towards an individual’s relative discount rate.

Conclusion

Those who did not master the signaling game did not survive. Utilizing signals instinctively aids in survival. Internalization is thus an adaptive quality. It was not the norms per se that were selected for, it was the ability to signal and recognize signals instinctively, and this comes in the form of gut moral appraisals of and reac-

279. McAdams, *supra* note 2 at 655.

280. Wendel, *supra* note 44 at 31.

281. Hardin, *supra* note 204 at 1826.

282. *Ibid.* at 1826-27.

283. *Ibid.* at 1826.

tions to the behavior of others, as well as our own behavior. Through a process of internalization these signals give rise to a moral universe. An ethical dimension is superimposed upon our actions. Is this not the defining feature of a norm? Does this not in fact square better with our empirical experience that normative decisions are for the most part not performed through the lens of calculated rationality, but rather from a place of emotional certainty in their ethical legitimacy? The sentiments that suffuse normative beliefs cannot be denied. And that this hazy emotional landscape is not “well enough understood” does not justify formulating an entire theory that treats it as if it simply were not there.²⁸⁴

Posner’s signaling model of norms is a powerful one. Its explanatory reach is sweeping. Yet it is incomplete as far as it fails to incorporate the reality of internalization. Internalization, however, can be tethered to Posner’s model. Our normative beliefs rise from an unconscious scramble to secure reliable partnerships with those around us. The signaling game Posner describes is the rational machinery that undergirds internalization, infusing a measure of predictability into the entire process. It reveals an underlying structure to an ostensibly chaotic process. The model allows us to predict what kind of people will internalize norms and in what situations. The intensity with which norms are internalized is directly commensurate with a player’s discount rate. The more one values cooperation with a particular group, the more inclined one is to internalize the norms of that group. We can predict what behavior regularities are more likely to occur: one’s that communicate a clear signal. Moreover, norms are not treated as exogenous; they arise endogenously, the byproduct of Posner’s signaling game. Nevertheless, at its core, a form of individual rationality is the basis for internalization; there is room for internalization in a law and economics model of social norms. Robert Cooter opines, “[E]conomic theory cannot explain internalization or predict its occurrence. Filling this gap requires a theory of endogenous preferences linking economics and developmental psychology.”²⁸⁵ This paper has attempted to provide such a theory.

The internalization of norms forms the purest underpinning of law—its normative heart. It is why we feel law is just or unjust. Any rational-choice model of social norms that aspires to theoretical purity by discounting the obvious existence of the very real emotive side to norms is, in its law and economics puritanical zeal, in danger of wandering off into the wilderness of pure abstraction. The basic perception of ‘right’ and ‘wrong’ implicit in a norm must be incorporated into our model. The Expanded Signaling Model fleshed out here demonstrates that it is quite possible to do this while maintaining most of the advantages that a law and economics intellectual framework provides.

284. McAdams agrees: “Absent a highly predictive alternative theory, I think one can justify cutting normative motivations out of the explanation only if one of the following is true: (1) normative motivations do not actually exist, or (2) normative motivations, while they exist, are unrelated to the behavior we call norms. Posner explicitly rejects the first proposition, and the second is simply not tenable.” McAdams, *supra* note 2 at 681.

285. Cooter, *supra* note 157.