On the Nature of Forgiveness and Vengeance

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Who sees not that vengeance, from the force alone of passion, may be so eagerly pursued, as to make us knowingly neglect every consideration of ease, interest, or safety; and, like some vindictive animals, infuse our very souls into the wounds of the enemy; and what malignant philosophy must it be, that will not allow to humanity and friendship the same privileges which are indisputably granted to the darker passions of enmity and resentment?*

Magnanimity, or a regard to maintain our rank and dignity in society, is the only motive which can ennoble the expression of this disagreeable passion.**

We human beings are partial creatures, not wholly autonomous. We are parts of the natural world, designed to work in tandem with other parts and facts, dependent upon them.***

We are animals, often vengeful ones. And sometimes the vengeance and the indignation it engenders are plainly corrosive. This indignation can cause us to lose sight of what is, in the end, best for all of us. The anger that vengeance reflects seems ever-ready to crowd out our natural sensitivity to humanity and friendship; it can express itself as a malignancy when it gains a strong cultural foothold. But even when its wrath is less invasive, its retributive nature has effects which, in both individual instances and in the aggregate, are often destructive. It can cause anyone and any community, even one as small as the family or a subset of siblings, to lose sight of a collective good. Yet often, despite the conditions that generate the anger, circumstances make or seem to make movement toward forgiveness irresistible, perhaps because we know that resentment and punishment alone will not bring about the social cooperation necessary for evolution to continue, and “[i]t would be irrational not to forgive when forgiveness would preserve something more important than retribution.”¹

Like some of our more primitive relatives who engaged in ritualistic behavior to help
resolve disputes, we too respond to many of Mother Nature's vicious tendencies through biological altruism, a force which frequently and necessarily prevents us from venting fully our edgiest impulses. The process is as old as our oldest phylogenetic predecessors: Cooperative living demands punishment but it also requires some apparently selfless behaviors – reconciliation and even forgiveness – for survival at almost every level of social organization. These challenging impulses stem from our innate need to retain the fitness necessary to survive. These emotions exact a cost as a result of and in response to an injury, and our need to find and develop cooperation is the price of survival, especially in harsh circumstances. Vengeance, the instinctive desire to get back at (or settle the score with) the perpetrator of one's injury, is Darwinian to the core, and seems more clearly implicated in our survival instincts. It protects the ability to reproduce one's own genes, with all that such protection entails. Yet reconciliation and forgiveness are parts of the same system although they seem to go beyond vengeance; actually, vengeance and forgiveness are both necessary to survival.

I hope to establish the nature of vengeance and forgiveness by dividing the general topic into several parts, beginning in Part I, which sets the stage offering a general background to the issue and then by suggesting the difficult niche in which forgiveness sits in law, and especially in criminal law. Part II then presents a phenomenological account of forgiveness as a prelude to an evolutionary explanation. Next, Part III outlines some of the mechanisms necessary to embrace forgiveness as an adaptation, including multi-level selection, an ongoing process which recognizes that “[t]he organization of the living world is hierarchical—lower level units group together to form higher level forms of organization,” from the gene to the chromosome to multicellular organisms to communities. On this view of humankind, adaptation operates in all
environments all the time. Among the means used to ensure social cooperation is punishment: We require outliers and free riders to pay for their parasitic ways. I move thereafter to a basic review of punishment in ethology and early human development, and on to a very basic outline of contemporary punishment theory. In Part IV, anticipates the oft-heard view (and objection to the view proposed here) that we forgive by distinguishing the actor from his act. I suggest that in some circumstances at least, this distinction inappropriately conflates the harm identified with illness. Finally, I hope to tie these parts together by asking what conditions, if any, might permit forgiveness or something like forgiveness to occur in a legal context. The essay ends with a description of and prescription favoring a sort of “Forgiveness-Lite,” a necessary component for maintaining, relatively healthy small communities.

I.

A. Situating Vengeance and Forgiveness.

We seem to intuit quickly that vengeance is a primary expression of the moral emotions of resentment and indignation, which represent moral psychological reactions that are necessary, but often unhelpful.6 These emotions rest on their own bottoms; they are not derivative of other emotions.7 Nico Frijda concludes that vengeance, in particular, is a “natural emotion seeking natural relief for unnatural suffering inflicted by unnatural offense.”8 That the offense perpetrated and suffering produced are “unnatural” doubtless depends upon the circumstances of each occasion, and is the subject of a paper directed solely at these questions.9 But the need for relief from the suffering, which includes forgiveness, is also among the most basic of human reactions. For forgiveness, too, has an evolutionary basis; it serves as a natural counter-force to our natural defensive mechanisms. It often unfolds phenomenologically as an adaptation to the
indignation that follows from the suffering. Forgiveness permits communities and members within them to accommodate a harm and move on, which is a necessity because failing to move on is, for most of us most of the time, not an option.

What components generate the vengeful emotions? We attribute cognitive content to all of these emotions, but whether the content gives meaning to the emotions or vice-versa is questionable and, happily, is not my primary concern because, I think, the empirical and the normative inform each other, either by debunking or by reinforcing existing beliefs. These emotions have developed and matured over time, fed by the small accretions that compose our culture; they are, like much else, both elemental and adaptive. Resentment and indignation, in particular, arise when an individual suffers a non-trivial injury that is inflicted with some level of intention and without excuse or justification. Among the many injuries each infliction produces is a diminution of self-respect: We tend to devalue the esteem we ascribe to ourselves as human beings. This discounting tendency is activated by a crime or a substantial tort that triggers our moral trip wires, and we react defensively because our psychological worth as an individual is threatened. We then hope to get even, first with anger and the desire to impose commensurate pain, which often ends with some form of punishment (or restoration). Over time we have elected agents to act for us as punishing surrogates, and so avoid some of the costs entailed in the punishment process but, in general terms, it is pain and punishment that are usually our initial (if not long-term) desires.

Forgiveness, if it comes at all, ordinarily arrives later. On the face of it, forgiveness seems to be owed to no one; only the individual aggrieved can bestow it. That may be because forgiveness reflects an individual's effort to deal cognitively and emotionally with the
conduct that triggered these basic, adaptive reactions so that the individual and her community can move beyond the pain of devaluation that some injuries impose. Forgiveness does not usually come in a three-dimensional, cinematic moment of awareness, when the victim and the perpetrator concurrently achieve the states of mind necessary to both forgive and regret the harm done; it is a process. Still, I believe that, at least sometimes, some among us can and must meet the conditions necessary to achieve the best practicable form of forgiveness; that is, forgiveness from an integrated, adaptive, and, therefore, pragmatic standpoint. Such a form of forgiveness lacks some of the valence required of formal conceptions of forgiveness but it is still a necessary reconciling emotion.

It is commonplace to describe forgiveness as a duty, although some regard it as supererogatory. This paper challenges formal conceptions; it insists that forgiveness is, at its heart, a natural counterpoint to our vengeful natures, and, hence, at least partially utilitarian. The position taken here is admittedly deflationary; it will not prescribe fully the conditions that are often deemed necessary to grant forgiveness with full compassion and humility.15 Ironically, though, I argue that the ability to forgive in a manner that is less thickly normative than some philosophers suggest rests on principles that respect the retributive emotions in an adaptive context. I suggest an enlightened utilitarianism with a small measure of selectional teleology.

B. Forgiveness in the law.

Forgiveness appears in juvenile proceedings and in forms of alternative dispute resolution and alternative punishment; nevertheless, forgiveness mostly hangs out at the margin of law, and especially criminal law:16 It makes an appearance routinely at sentencing, but has little formal role to play otherwise.17 As they stand awaiting sentencing, for example, many convicted
defendants use their moments of allocution to assure the court that they now know they have
made a terrible mistake, that they have learned their lesson, and that they seek forgiveness. Their
appeals often sound genuine, and merely mouthing the words may provide the court some
comfort about their cognitive skills. And then they are sentenced, almost always to a period of
incarceration that the judge already has determined to be appropriate. The point is not that all
such pleas are necessarily disingenuous; it is possible that some first-time offenders (especially)
really have learned their lessons and are regretful of their conduct. Who knows? I do not, but
that does not matter much. The broader point is that contemporary retributive justice demands
payback, and it is commonly delivered in a stern and unforgiving manner. Public compassion
and forgiveness, if they come, must await the parole board. And there is the rub: Forgiveness,
from a moral point of view, may make sense to some only as a deontological conception, with its
emphasis on welcoming the transgressing individual back into the moral community. From a
practical point of view, however, the deontological conception is unreachable; it requires some
concession to utility as a social stabilizer.

Forgiveness is thus a troublesome topic for the law, and particularly the criminal law,
both practically and theoretically. We purport to desire a measure of forgiveness but we do not
know what to do with it. The public's embrace of muscular retributivism—a form of
vindictiveness that couples retribution to some variably harsh moral foundation—makes it
virtually impossible as a practical matter for politicians to embrace the compassionate side of
their own natures. That side might reflect incarceration followed by a welcoming back into
the community to those who have paid their debt, or the recognition of the need for
incapacitation without punishment in light of some prima facie neurobiological deficits. And
from a theoretical viewpoint, it is unclear whether forgiveness is even necessary: from a deontological perspective, if the wrongdoer has truly mended his ways, we are obliged to welcome him back into the moral community. What is necessary, in any case, is a reaction to injury suffered at the hands of another human being.

II.

Revenge, as noted, is customarily viewed as a personal right. After all, if retaliation is appropriate in any context, it is owed to, and ought to be carried out by the individual harmed. Revenge either exists *mano a mano* or is a function, ultimately, of some other goal rooted in the perception of great harm or injustice. It is not always confined to the individual, however; often—too often—dealing with outliers and perceived outliers is carried out by groups with an axe to grind. Because groups tend to over-punish, we try to confine the imposition of vengeful emotions to the governing authorities. But I want to bracket the political context for now and define vengeance in narrower, less collective terms as an initial reaction to injury.

A. Phenomenology I: The Initial Reaction to Injury—Vengeance

Getting to forgiveness is a complex series of steps, which requires movement from (a) a recognized self, the self pre-injury, to (b) a devalued sense of self in the relevant community, to (c) a re-valued sense of self. Moving from (a) to (c) is a neurobiologically orchestrated process involving movement down many pathways. The process is propelled in large part by a desire to maintain the community to which each self belongs, a goal at once neurobiologically sound and, from the perspective of human norms, intuitively right. It is all sustained in a necessary way by evolutionary-based neurobiological, psychological, and culturally co-evolved mechanisms.

It all begins with recognition that an injury has occurred, and then placing that recognition in a causal framework. It thus starts with the concurrent capacities to feel an injury,
recognize its source, and determine some metric of devaluation, where that metric is sufficient (perhaps) to move the victim beyond retributive feelings that are persistent at some valence to a more moderate form of condonation. The consciousness of self, which seems to be unique to the human species, is a part necessary to jumpstart the processing.23 According to most researchers, the neuroanatomy of forgiveness follows the development of the inferior parietal lobe.24 Thereafter, the neuro-processing becomes increasingly algorithmic and reductive. Often the process requires nothing more than perception of the obvious—"Joe hit me!"—in the simple, dyadic context, a primitive response. It can, however, implicate complex neurobiological work that not only identifies the perpetrator, but also processes difficult counter-factuals that involve a determination of what would have happened but for the action (or omission) of the perpetrator.25 In any event, social psychologists have made it clear that our response to injury also triggers an elevated sense of self.26

When the injury occurs, and especially when the injury is perceived as an intentional action, a reaction occurs.27 The self is diminished, particularly when the victim has this exceptionally exaggerated sense of himself or of the offense suffered.28 The victim's diminished sense of self-identity is often matched by a reduced sense of identity within the community. In any reasonably healthy individual, the perception of harm and the lessened self-image thereby occasioned demand some effort to restore the status quo; this is, requirement that is both psychologically necessary and biologically adaptive to our norm of reasonable health.29 Resentment at some level of psychological commitment generally follows. Adam Smith spoke to the origins of resentment and vengeance in The Theory of Moral Sentiments in 1759. His idea
still has a ring of truth.

What chiefly outrages us against the man who injures or insults us is the little account which he seems to make of us, the unreasonable preference which he gives to himself above us, and the absurd self-love, by which he seems to imagine that other people may be sacrificed at any time to his convenience or his humor.\textsuperscript{30}

We do often tend to feel aggrieved in a personal way, though it may well be that the actor who caused this feeling of diminution was operating carelessly rather than intentionally.\textsuperscript{31} Still, our reactions—think about being dangerously cut off in traffic on the road—tend to cause us to attribute wrongdoing to the personality of the wrongdoer; thereafter, we do not usually wish him well.\textsuperscript{32}

How the effort at restoration presents itself depends upon a myriad of variables, including, not least, one's general hold on one's emotions. Although some individuals find strength in the ability to withstand the pressures brought on by impersonal sources of injury, those with low self-esteem tend to have a more difficult time restoring their sense of self-worth following assaults and injuries brought on by others.\textsuperscript{33} And regardless of one's pre-injury psychological health, the immediate desire for and aim of vengeance, whether in fantasy or fact, is reflected in the victim's desire to heap pain on the perpetrator commensurate with the injury suffered; when our sense of self is devalued, the desire for retaliation is often the spontaneous reaction. What often follows is a desire for revenge, which I define as follows:

\textit{Vengeance is the natural act of getting back at, or desiring or attempting to get back at, the person who inflicts a non-trivial harm, where the harm may be physical (with all the variations we can think of in that realm); it may be proprietary; or it may be psychological; so vengeance and the retribution is spawns are responses to some physically or verbally harmful act. In each case, the injury suffered diminishes its victim's self esteem such that the victim seeks to deny the devaluation and regain an earlier sense of fitness.}
In his work on vengeance, Frijda identifies three social functions that revenge seems to serve. To begin with, it can operate to equalize the power and suffering imbalance created by the injury as the victim seeks to reestablish his place in the community's hierarchy. Insofar as it deters future harms and avoids the centrifugal tendency of individuals to destabilize by spinning out of control, moreover, revenge may also stabilize a community; the cuckold who discovers his spouse in bed with the paramour has sustained an injury and, too often, seeks an immediate redress of this imbalance. “[O]ne is once again the cause of one's acts, and is so in the relationship with the individual who once took it away.” Kant's famous measure of punishment and Bentham's supplementary principle of “equability,” part of an eighteenth century effort to reform punishment, may have been directed at this stabilizing function, removing the instantiation, if not the desire to inflict disproportionate pain on the perpetrator. If the redress taken is perceived as roughly equal to the loss suffered, there may be a deterrent effect to vengeful over-reactions. Frijda notes that one could argue “that evolution has on [these bases] created an emotion of desire from vengeance, an innate propensity to punish an offense towards the self or one's kin.”

B. Phenomenology II: The Next Step?

But what comes next? What comes after the initial hateful reaction to restore some semblance of balance in one's own life as well as the community's? A formal response suggests that the victim, largely served by his fantasies and sometimes by the community and/or the law, moves beyond the spontaneous initial reaction. To do nothing—to tolerate the wrong without obvious reaction—is to engage in condonation, a reaction that seems prima facie unstable.

1. Condonation
Condonation occurs when the victim (a) clearly knows that someone else has done wrong—and done so under circumstances that would not permit a traditional justification or excuse; (b) disapproves of the wrongdoer’s conduct, and feels hurt but (c) still refrains from taking any overt action that signals disapproval; that is, he knows he is thus refraining, although he may be passive-aggressive thereafter.

As Aurel Kolnai points out, condonation shares some of the conditions with what we call an excuse in both legal or moral domains.39 On occasions that warrant an excuse, we both disapprove of the conduct and refuse to visit blame on the wrongdoer. In both law and morality, however, we excuse because the wrongdoer suffers from some gross and verifiable cognitive or volitional deficit. Thus excuses negate responsibility because they imply that, although the actor’s conduct was wrongful, he is not culpable or blameworthy.40 The existence of a pathological defect is not a necessary condition in the description of condonation.

Why would one refrain? For one thing, the victim may be characterologically passive-aggressive and so unable to address the injury directly. Perhaps he refrains because on balance he believes the perpetrator is a decent person and he fears that this offense could rupture a generally convivial relationship forever. Or, the perpetrator may have such unsurpassing virtues in other regards that the victim tolerates the harm. Or, it maybe condonation is a characterologically adaptive reaction to an abusive situation; here, fear of further harm may generate condonation. Finally, a strong reactive response just might not seem worthwhile: Sometimes one lets some matters slide.

On first blush, condonation seems to be close to what we might call an excuse in legal or moral terminology because, in circumstances that warrant an excuse, we both disapprove of the conduct and refuse to visit blame on the wrongdoer. We excuse those who violate public norms, however, because the actor lacks control over his actual physical movements, or he was
operating under constraints at the time of the conduct, or he suffers a fundamental deficit in his
cognition or volitional control that preclude holding him responsible—or fully responsible—for his
(mis)conduct. Those are not condition that evoke condonation.

2. Forgiveness

Forgiveness, in contrast to condonation, does not nullify the wrongdoing and it doe not nullify the blameworthiness of the act either; the forgiver, according to the formal view, does not and must not acquiesce in the offense. To be justified from this perspective, forgiveness has to face the wrongdoer and the wrong squarely—whimpy responses are not tolerated. In fact, if the victim acquiesces in the offense (condonation), that person commits an offensive act of spinelessness: He permits the wrongdoer to walk all over him, which does not appear to be evolutionarily stable, at least for the individual characterological condoner. Yet, condonation can look like forgiveness, especially if we forgive without a good reason for it.

What constitutes forgiveness? One might begin with the Kantian imperative that everyone is entitled to full respect as rational and autonomous individuals—a basic premise of retributive punishment. Because, on traditional retributive principles, we punish to honor the fact of each individual's humanity, we should forgive if, but only if, the wrongdoer genuinely acknowledges the wrongfulness of his act—he expresses sincere regret—and he promises solemnly and in a sustained way not to treat the victim as he had and thereby reasserts his good will. So, traditional forgiveness requires some performative act—an admission of wrong-doing, a plea for forgiveness and so on. If the wrongdoer goes through this kind of process, we once again accept him as a person worthy of full moral (and legal) respect.

Forgiveness, if it is a virtue, (as opposed to a necessity) is generally acceptable only in
fairly circumscribed contexts. In contrast to vengeance, which, although logically it seems personal, is often a collective process of cleansing to scrub away devaluation and reassert some dyadic or communal equilibrium, forgiveness is usually viewed as interpersonal; that is, its quotidian existence finds two people of relatively equal moral or legal footing in conflict. As a matter of first impression, talk about forgiving a person who has not inflicted a harm directly on me has little purchase. I may be appalled and think very little of white South Africans who oppressed black South Africans by apartheid or of those who implemented and carried out Jim Crow laws in the American South, and I might think it is an impermissible and ugly invasion when someone steals something from a family member or friend or even a stranger. I do not see, however, how I could forgive anyone in any of these contexts; I was never stung by it. So in contrast to vengeance, forgiveness commonly makes sense only if it is granted by the party who suffered the injury.

One might begin the process of forgiveness when the realization occurs that sustained resentment and the desire for revenge are costly; these efforts take time and an enormous investment in and loss of psychic energy. (Just think about divorce, especially any ugly one.) Forgiveness too takes time, effort and a great deal of psychic energy, but its energy current seems to flow in a different direction; forgiveness is not a psychic loss except in the most primitive Darwinian contexts. Ordinarily, the energy invested in forgiveness has a net psychic payoff; it flows in a calming direction in contrast to vengeance. Forgiveness, in practice, seems to begin with an effort to overcome the harm that generates resentment. I describe forgiveness this way because it begins in tension with the resentment that naturally follows an injury, especially an intentional one. Before turning to the circumstances under which forgiveness
should be granted, however, I hope to illustrate some of its evolutionary precursors.

III.

Forgiveness, like vengeance and the reactive emotions generally, comes to us with an evolutionary history. Examining that history will demonstrate some of the patterns that exist in our behavior, will help clarify the causal relationship among the variable that produce conciliatory behavior, and generally will provide support for some of our most deeply-held intuitions. To that end, this section surveys the open-ended nature of natural selection, the play of multi-level selection, some insights from evolutionary game theory, and the co-evolution of punishment and reconciliation.


The omnipresence of “natural selection” is carried out through systems mostly preprogrammed within us, which set in motion adaptive processes that result from interactions with all the broad environmental influences that compose our discrete and personalized lives. It is important to realize that the entire process is purposeful but non-teleological: “Selection” does not occur according to a master plan that leads inevitably to “progress;” evolution is not normative. Two of the qualities that constitute natural selection—bodily selection and the intelligible but non-goal-oriented nature of the global process—are well illustrated by showing how the process works in a relatively familiar context.

Selection and recognition occur routinely in the operation of our immune system.49 When infection or disease or some forms of invasive trauma assault us, our immune systems move into action. They immediately identify products in the body that are not of us; the system automatically recognizes objects that are foreign. When these “non-self” invaders arrive, a
biochemical process springs into action whereby lymphocytes recognize and bind to the molecular non-selves, targeting them for removal and destruction.50 The mystery is that the invading molecules do not have to instruct (pass information to) the immune system about their novel qualities; it is the magic of our immune system that it recognizes the non-self molecules without any information exchange. In other words, the immune system exists within us and arrives at the problems with an open-ended ability to react against foreign invaders.51 Selection works on the basis of “a preexisting capacity that an organism possesses from birth.”52 The point is summarized by Damasio:

[A]s we develop from infancy to adulthood, the design of the brain circuitries that represent our evolving body and its interaction with the world seem to depend on the activities in which the organism engages, and on the action of the innate bioregulatory circuitries, as the latter react to such activities.53

The crucial idea here is that we are—all of us and in the most literal sense—works-in-progress. What we become and who we become depend vitally on the actual circumstances and experiences we confront; they present the information that is selected (and that we then prize in some way). What Edelman's study of the evolution of the immune system has to show us about conflict and cooperation, punishment and forgiveness, is that the “genetic evolution does not invariably lead to the kind of modularity that excludes open-ended processes. Instead, it can create processes that are themselves evolutionary and therefore capable of providing new solutions to problems.”54 We are, in effect, “Darwin machines.”55 “machines,” because the “internal evolutionary process must be highly managed to [produce] biologically adaptive outcomes”—its purpose, and “Darwin” because the “internal process remains evolutionary despite being managed”—and thus non-teleological.56
Nothing said to this point should imply that one's genetic endowment simpliciter determines future behavior. It does not. For example, there is no known gene or cluster of genes that controls one's propensity for criminal conduct and it is quite likely that were scientists to find something that partakes of a protein-producing structure inducing criminality, they would find that the same genetic complex is necessary for the pursuit of other, useful endeavors.\textsuperscript{57} Rather, there are multiple thousands of genes—these protein coders—operating in a fashion that contradicts the popular conception of our genetic structure as a blueprint that automatically releases predetermined forces in an autonomous fashion at the appropriate preset time. As Matt Ridley explains, the popular imagination employs the wrong metaphor: “The genome is not a blueprint for constructing a body; it is a recipe for baking a body.”\textsuperscript{58} Crucially, the ingredients that compose each unique selecting body come from both inside and outside our bodies; we are hard-wired to adapt: We adapt to our environment with “historical contingencies and other constraining factors that cause adaptations to fall short of perfection.”\textsuperscript{59}

B. Multi-level selection.

In The Descent of Man, Darwin noted the presence of what we now call altruistic behavior among early humans,\textsuperscript{60} and speculated that some behavior that may be selectionally disfavored by an individual might be favored by the group.\textsuperscript{61} Despite its parentage in the history of evolutionary theory, there was a time when the very idea that selection might operate beyond the level of the genome was widely scorned as, at best, a minor phenomenon of little import.\textsuperscript{62} Although multi-level selection still has many critics, the idea is no longer condemned; it is embraced by a group of evolutionary psychologists as a source of valuable insights into
cultural evolution. The basic insight is that “natural selection can operate simultaneously at different levels of biological hierarchy.” The questions raised are important, although beyond the scope of the current paper. They include the following: Does “natural selective" have a force sufficient to effect human conduct at every level of activity? If so, where do we begin to redraw the lines between our heuristic understanding of biology and the scope of its anthropological reach? And, how to we account for the existence of normative thinking a Darwinian world? And much that follows from there.

In one sense, the existence of multi-level selection is not debatable. Michod and Roze point out that the entire organization of living beings is hierarchical: “lower levels units group together and cooperate to form higher level units of organization (genes, chromosomes, bacteria-like cells . . . multicellular organisms and societies).” A key conceptual distinction one needs to make when moving from the obvious idea of hierarchical selection within the individual to selection at a group level is between the biological units of replication, on the one hand, and units of selection, on the other. That genes are the only biological unit that ensures hereditary replication (parents passing on half of their genes to each offspring) “establishes nothing about why adaptations found in nature have evolved," units of selection. There is no reason to deny—and much reason to believe— that we pass on genes that code for mechanisms or traits that help the entire group survive. And groups come in all sizes, from entire nations to tribes to communities to individual families. In each instance, both punishment and cooperation are necessary for stability.

C. Evolutionary Game Theory.

Research in evolutionary game theory and computational biology supports the thesis that
cooperation and forgiveness are possible in a predatory world and can help stabilize social life. Many of us are familiar with “The Prisoner's Dilemma,” a game that pits arrested co-felons against each other, isolated from one another in the jailhouse, and challenges them with the dilemma of whether or not to confess ("defect" from their felonious partnership) or hold their tongues ("cooperate").69 In a one time game, the dominant, invincible strategy is to always defect (AllD): The defector will not leave the jailhouse scot free but he will always get some break for his cooperation, will never suffer greater punishment than his partner and, if the partner does remain silent, the partner will wind up with the longer sentence.70 Although trust (cooperation) provides the best solution for both suspects, in Darwinian terms, the AllD defector emerges more fit than (or at least equally as fit as) his one-time partner. Under such circumstances, in the real world the cooperation strategy simply cannot emerge. When the game is repeated over many hundreds of generations, however, a better and winning solutions arises, which is sometimes described as “Generous Tit for Tat” (GTT).

GTT is a variant of “Tit for Tat” (TFT), a mimicking strategy by which Player 1 does whatever Opponent does: If she cooperates, you cooperate; if she defects, you defect. This strategy tells the prisoner/player to cooperate as long as the opponent cooperates and defect when the opponent defect. Opponent may win the first round by defecting when Player 1 cooperates, opponent will pay in round two when Player 1 defects. Two TFT players will cooperate in the absence of mistakes, while TFT facing AllD will only be exploited in the first round and will defect from then on. If the number of rounds is sufficiently large, then TFT playing TFT receives a higher payoff than AllD playing TFT. Vice versa, AllD playing AllD receives a higher payoff that TFT playing AllD. Therefore, in infinitely large populations, neither strategy can invade the other. This makes cooperation evolutionarily stable, but demands the question: how can cooperation emerge in the first place? It turns out that in finite populations, natural selection can favor TFT invading and replacing AllD under certain conditions.71
In the real world, however, we do make mistakes: we mistake the stranger for a potential foe, we assume the "friend" will always cooperate with us when he will not. GTT accounts for mistakes by suggesting a bit of forgiveness: Don't always defect when the opponent defects; sometimes let it go and move on. If Player 1 forgives, on average, one third of the time, the strategy is apparently unbeatable. After 100 generations in which any strategy may be used, the game swings from nasty to nice, and after 300 generations GTT wins out and establishes a stable "path by which cooperation and selflessness could have been established on this planet." What Prisoner's Dilemma presents us with is the notion of "enlightened selfishness" both on the personal and evolutionary level. Prisoner's Dilemma shows that in the personal sense, selfishness is enlightened...if I cooperate with you, you will likely cooperate with me (tit a tat strategy) and we will both score "in the game of life" sort of speak. If we keep betraying each other, we will both be losers at the end.

That is, as long as there is someone to police repeated outliers.

D. Punishment and Cooperation: The Foundation.

Evolutionary game theory tells us what is possible, not what actually occurs. What our earliest ancestors recognized was that cooperative living in even the most primitive community requires some form of punishment, and the building blocks for a moral system lay in the keen observations of numerous primate communities. For example, Frans de Waal and his colleagues have identified problem-solving and conflict reduction in many non-human primates. Capuchan monkeys and chimpanzees respond negatively to distributional inequities. (Even my dogs know the difference between being tripped over and being kicked.) The foundation for cooperation within human communities was laid by our closest phylogenetic ancestors. This is not to make the claim that primates have self-conscious moral systems. For all we know,
they do not; nor will we ever know what it is like to be a bat either: we have not yet solved the problem of consciousness. 79 (We also recognize the distinction between “a modus vivendi by means of which individuals can live together in a stable arrangement . . . and social practices or individual behaviours that are distinctively moral in character.”80) And yet, consistent with Darwinian notions, we humans seem to possess a basic, uncultivated understanding, traceable to a time close to our recorded beginnings, that human life is vulnerable to invasion and harm by the acts of others, and that the most elemental remedy for this kind of invasion–vengeance–is an appropriate counter-invasion.81 The evidence strongly suggests that this counter-invasion disposition–the “fight” half of the “fight or flight” response–is a potent adaptive reaction.82 Ethologists have for a long while studied and documented the existence of punishment as a means that makes cooperative adaptation possible.83 Understanding that no one wants to be thought of as a sucker or a fool, Fehr and Gächter note that punishment “reduces the payoff of those with a relatively high propensity to free ride.”84 Without control of free riding, communal living could not occur. Without some mechanism short of revenge, communal living could not endure.

E. Forgiveness as a Possible Feature of Multi-level Adaptation.

Doubtless our tendency to forgive (and express remorse) reflects both biologically-driven, adaptive mechanisms and non-biological agencies that have co-evolved through culture. The law, the acculturation of punishment for which we have, over time, elaborated our norms of justice, reflects just such a non-biological mechanism. Religion, although itself susceptible to great not unnatural forms of abuse, reflects another.85 Alternative
dispute resolution, which embraces both law and religion in some instantiations, represents yet another. But in each case, I suspect, one module or another of multi-level selection is at work—that is, culture co-evolves through some natural mimetic mechanisms.

Why, from an evolutionary perspective, might anyone forgive another (or offer honest regret) after suffering (or inflicting) a deflating injury? No doubt, in extreme or nearly extreme cases some pathology might be involved in forgiveness; the battered spouse and instances of pathological abuse, both the consequences of human frailty, come quickly to mind. Fear of being made a fool or a sucker again might play some self-effacing role here too; self-esteem rules out all but pathological instances of the “happy clown.” But mostly, I think, we forgive one another to maintain the integrity of the group qua group, in all its manifestations and for all its many purposes because our survival depends upon it. In fact, our health may depend upon it too.

Revenge, in contrast, has an inertial force of its own that is released immediately; individuals are often prone to spinning out of control. To combat this destructive tendency, some inter-personal mechanisms of social stability seem to be absolutely (even trivially) necessary to create and maintain some of the essential components of social control and cooperation. Forgiveness is a mechanism that serves this more sober aim. For one thing, forgiveness can generate empathy for the victim from others, thereby enhancing her social support among empathic members of the group, which operates to her emotional advantage. It might be that the thought, “There but the grace of God go I!” motivates this stance. With sufficient time, forgiveness can also erase (or motivationally erase) the roles of both victim and perpetrator, rebuilding a bridge to the status quo ante within the community. The community,
scarred but collectively smarter, moves ahead as an intact community or so one hopes.

Forgiveness is undoubtedly a complex prosocial adaptive event; it is composed of ultimate and proximate psychological mechanisms, the latter of which can be viewed as healthy or unhealthy in different instantiations. Ultimately, nothing less than species survival is at stake. Proximately the mechanisms vary, a subject addressed shortly. And, of course, no amount of forgiveness and repentance can guarantee that the perpetrator will not resume his unwelcome ways. Some of our behavior is governed by complex genetic and neurobiological mechanisms over which human beings, especially if they suffer some neural damage or deficit, are hard-pressed to control, though they too require constraint for our future well being. (We do have substantial evidence that our moral emotions are differentially activated in different areas of the brain.) Still we adapt and move “forward” in our own Whiggish ways, convinced despite evidence to the contrary that we are moving ahead. Among the institutions that help us move forward, in addition to forgiveness, is punishment.

IV.

Perhaps, one might object here, that we should distinguish between the actor towards whom we feel resentment for diminishing us, and the act, and then focus on the latter. After all, that is precisely the stance taken by some Christians when they address an issue like homosexuality: Love the sinner, hate the sin! On this view, forgiveness does not presuppose resentment or even a negative attitude toward the offender, but toward the offender's wrongful action. At least in some circumstances, this view is highly problematic.

Although one hears this plea frequently, and there is a certain disarming charm to it, there
are several problems with it. First, at least in some contexts, for example, the context of homosexuality and perhaps other phenomena that deal with sexual orientation, it tends to collapse the distinction between wrongdoing and illness; the wrongdoer, on this view, is necessarily sick and for that reason we should forgive him; he will or can get over it. There is something troubling to me about this approach. In criminal law, for example, we routinely require both a voluntary harmful act (or a voluntary act that causes harm) and a culpable state of mind; except for strict liability crimes, we are told not to detach the actor's mental state from the act.\textsuperscript{97} If it were permissible to distinguish between the actor and the act, then we would have to ask if, moral condemnation of an actor is ever appropriate. And, of course, if condemning the actor, as opposed to the act, is never appropriate, then punishment and moral philosophy are simply damaging and ridiculous endeavors. I think the whole approach is semantically and logically suspect: At least in the context of sexual orientation, it confuses an act with a status, which, as a matter of criminal law, it is constitutionally impermissible to punish.

Second, even if this sort of distinction were permissible, it might be psychologically impossible for the victim to make it: After all, we resent the author of the harm for doing something, and that something is the wrong done. When resentment is an appropriate moral emotion, rarely do we condemn the offender's action and retain a bullish mental attitude toward him as a person; excusing conditions formally excepted, usually it is only for our children and loved ones that we balance such dichotomous feelings as a part of their education in moral norms. We are resentful at the actor for his wrongful act, for devaluing us, and we tend to over-attribute a bad character to the actor who produced these injuries.\textsuperscript{98} As a result of these and other forces, we want to see him defeated, in some way. Defeating the perpetrator is the
corrective that vindicates our own, pre-injury appraisal of worth, a point both Jean Hampton and Nico Frijda make persuasively. I suspect that is why a number of philosophers who have written about forgiveness argue that to grant it, the offender has to be worthy of it; as a pre-condition, he has to undertake some *visible performative* act, some combination of admission of guilt, of blameworthiness that reflects that fact that he *deserves* the rebuke or punishment. That visible performance distances the wrongdoer from his offensive act, and in doing so, he actively separates himself from the offense; that act allows both the victim and (one hopes) the offender to retain their negative attitudes toward the act, but it may also permit the victim to see the offender in a new (and forgiving) light.99

Can some of the newer institutions of punishment and sentencing such as victim-offender conferencing and even victim impact testimony serve to reduce the moral hatred and desire for vengeance that often follows criminal victimization *and* welcome the wrongdoer back into the community so that it and he may move forward? Retributivism, of which traditional forgiveness seems to be a part, has little room for compassionate responses to wrongdoing in today's criminal justice system. However much we may adopt retributivism as a theory with transcendent moral and legal authority, each of us wants safe streets for ourselves, our families, our communities and our nation. And for many, retribution fulfills this personal preference.100

Something close to genuine forgiveness, with a touch of consequentialism, may provide a route to those safer streets. When the perpetrator of a wrong apologizes and seeks forgiveness, he sends a signal to the victim that he wants to be included again within, and conform to the norms of the moral or social community. Insofar as that signal reflects changes in the perpetrator
's behavior he is displaying an appropriate prosocial adaptation. If the victim finds it in her heart to forgive, whatever feedback information thereby offered must operate for the benefit of the entire community. That forgiveness may have a utility—roughly “I really am as sorry as I can be now so can we all please move on”—suggests that we give more attention to the interface between retribution and utility as moral justifications for punishment, less time debating these issues as if they represented either-or propositions, and frankly acknowledge the usefulness of forgiveness.

V.

In this paper I have tried to show that forgiveness is as much a inherent part of our moral psychology as is vengeance. Both emotions are designed to help us maintain fitness. Perhaps the brain itself has evolved so that our traditional understanding of forgiveness, a basic metric for social cooperation among beings who never stray all that far from the selfishness that also undergirds all of human evolution, has created a normative bar that most people cannot satisfy in full. Rather, we often engage in as much cooperation as is necessary to maintain reasonably healthy social and family relationships among ourselves, our spouses, our offspring and our communities. That many among us cannot meet the most highly refined iterations of our prosocial norms certainly does not make those norms meaningless, but neither does it justify our failure to recognize the value of Forgiveness.

#Professor of Law, Adjunct Professor of Medical Education, Mercer University, Macon, Ga. Special thanks to Morris Hoffman, Karen Kovach, Jack Sammons and Doug Yarn for many helpful comments. This is a much expanded version of a project I first introduced at the annual Squaw Valley conference of the Gruter Institute for Law and Behavioral Research in May 2006; at the Scholarship
Conference of the Society for the Evolutionary Analysis of Law, at the University of Indiana Law School (Bloomington) in October 2007; and at a Faculty Workshop at Mercer University School of Law. I thank the many attendees who offered useful comments and asked incisive questions. Finally, I thank Jennifer Richter (Class of 2007) for incisive, honest and timely assistance in the preparation of this draft; Megan Boyd, for a careful reading of the manuscript; and Meredith Blumoff for helpful insights early in the process. As always, sincere thanks to Dean Daisy Floyd for continued institutional support.


1Cheshire Calhoun, *Changing One’s Heart*, 103 Ethics 76 (1992) (describing forgiveness as a non-obligatory condition won by creating a new narrative of one’s life, taking into account the flaws in others).


4In terms of our evolutionary history, harsh circumstances can arise in at least two contexts: in Malthusian over-population, where the fear of insufficient food demands cooperative sharing to permit
selection to occur and, thus, to survive, and in arid and desolate locations where the problem is not over-
population but a harsh and unforgiving landscape that alone demands cooperation to produce even a
minimal amount of food. See, e.g., Stephen Jay Gould, Kropotkin Was No Crackpot, 106 Natural History
12 (1997).

5Richard E. Michod and Denis Roze, A Multi-level Selection Theory of Evolutionary Transitions in

6Adam Smith observed that we even tend to take out our occurrent frustrations on the family cat that
refuses to move as we move into its path where the cat has come to rest in our way. See Smith TMS at
136-3,8 (noting that inanimate objects that “cause” injury can become the object of our resentment).

retributive emotions promote cooperation in the long–evolutionary– run); Peter Strawson, Freedom and
Soc'y 1 (1952)).

8Nico H. Frijda, The Lex Talionis: On Vengeance, in Stephanie H. M. Van Goozen, Nanne E. Van
de Poll and Joseph A. Sergeant, Emotions: Essays on Emotion Theory 263, 283 (Lawrence Erlbraum,

9For a reaction to the valence of the “offense given,” see Theodore Y, Blumoff, Some Thoughts on

10Smith described the object of resentment as the need “[t]o bring him back to a more just sense of
what is due to other people, to make him sensible of what he owes us.” Smith, Theory of Moral
Sentiments, supra note # –, at 139. Although I think that Smith accurately describes the reactive nature of
resentment, in fact, much of the conduct which brings out resentment is probably not the product of
mature cognition; often, it is the product of thoughtlessness—the empty-headedness of an individual whose
affective control is deficient. See, e.g., Laurence Tancredi, Hardwired Behavior: what Neuroscience

11 I do not mean to suggest that some significant level of conscious intent is necessary to provoke these sentiments; even negligence can provoke angry feelings. See Judith Andre, Nagel, Williams, and Moral Luck, 43 Analysis 202 (1983). On the definition of “injury,” see Jean Hampton, Correcting Harms Versus Righting Wrongs: The Goals of Retribution, 39 U.C.L.A. L. Rev 1659, 1662 (1992) (defining “harm” or “loss” as a “disruption of or interference in a person's well being, including damage to a person's body, psychological state, capacities to function, life plans, or resources over which we take this person to have an entitlement”). Clearly, some of the terms in that definition, not least the last clause, are debatable, yet the tenor of her definition is inclusive.

12 David Novitz, Forgiveness and Self-Respect, 58 Philo. & Phenomenological Res. 299, 301 (1998). Surely this is not the only emotion that entails the process of devaluation. I think that shame and certain forms of embarrassment engender losses to self valuation as well. Remorse might also involve a process that demands lessening the values to which we hold ourselves; when genuinely felt, it is an expression of finding oneself at fault: not meeting common standards of decency.

13 See Jean Hampton, Forgiveness, Resentment and Hatred in Forgiveness and Mercy, supra note # –, at 43-53; Frijda, supra note 3 –.

14 See Martha Minow, Between Vengeance and Forgiveness: Facing History After Genocide and Mass Violence 20 (Beacon 1998); Novitz, supra note # –, at 302.

15 For a formal approach to forgiveness, see Aurel Kolnai, Forgiveness in Ethics, Value, &
Morality: Selected Papers of Aurel Kolnai 211 (ed. by F. Dunlop and B. Klug; Hackett Publ. Co. 1978); compare Novitz, supra note # –, 307 (following Bishop Butler and arguing that forgiveness granted with the hope of reforming the perpetrator over time is more akin to forgetting). See also, Cheshire Calhoun, supra note # –; Joanna North, Wrongdoing and Forgiveness, 62 Philos.,499 (1987) (arguing that forgiveness involves nulling the distorting effect that a wrong has on one's relationship with the wrongdoer); Norvin Richards, Forgiveness, 99 Ethics 77 (1988) (presenting a formal, albeit revisionary view of forgiveness).


18Witness, for example, the senselessness of the "Three Strikes" movement. See, e.g., Markus Dirk Dubber, Recidivist Statutes as Arational Punishment, 43 Buff. L. Rev. 689 (1995) (concluding that "three strike" statutes were passed and remain on the books despite the absence of a logical nexus between the punishment and its legitimate purposes).


21This point was made forcefully by Judge Morris B. Hoffman in his talk at a recent conference titled "Law, Mind & Brain: Interdisciplinary Colloquium" at University College London Faculty of Laws.


24 In their work on the neuropsychology of forgiveness, the authors suggest that the evolutionary and adaptive path toward forgiveness followed the development of encephalized functions in the prefrontal cortex and the inferior parietal lobe. Andrew B. Newberg, Eugene G. D'Aquili, Stephanie K. Newberg and Verushka deMarici, The Neuropsychological Correlates of Forgiveness, in Michael E. McCullough, Kenneth I. Pargament and Carl E. Thoresen (eds.), Forgiveness: Theory, Research, and Practice 92-3 (New York: Guilford Press 2001) (hereinafter, “Newberg et al.”).


26 Id. at 93.

27 See note --, supra.


29 See, e.g., Wanda Malcolm and Leslie S. Greenberg, Forgiveness as a Process of Change in Individual Psychotherapy, in Thoresen, supra note --, at 179-80; Jan A. R. A. M. Von Hooff, Social
Homeostasis and the Regulation of Emotion, in Van Goozen et al., supra note # _, at 197-217.

30 Smith, Theory of Moral Sentiments, supra note _, at 139.

31 Thanks to Paul Zak for requiring me to be clear on this point.


33 Taylor et al., supra note # _, at 223.

34 Frijda, supra note # _, at 270-81.

35 Frijda, supra note # _, at 277.

36 See Immanuel Kant, General Introduction to the Metaphysics of Morals, in The Philosophy of Law 196 (trans. by W. Hastie; Edinburgh, Augustus M. Kelley, 1974 ed.). “Equability” refers to the idea of treating similar offenses similarly in terms of punishment. Jeremy Bentham, An Introduction to the Principles of Morals and Legislation 403 (Oxford 1948). Bentham did subscribe to the general idea of treating likes alike, acknowledging with tempered approval the tendency to prescribe “[t]he same punishments for the same offences,” but only as a general rule. He argued in favor of permitting the judge to tailor the punishments to a number of circumstances, lest rigid legislative prescriptions “would be doubly vicious, as ineffectacious, or as tyrannical.” Id. at Pt. I, Ch. VI, at 33. See generally John Rawls, Two Concepts of Rules, 64 Phil. Rev. 3, 8 (1955); Stephen J. Schulhofer, Harm and Punishment: A Critique of Emphasis on the Results of Conduct in the Criminal Law, (1974) 122 U. Pa. L. Rev. 1497, 1499-1500 (1497).

37 Frijda, supra note 3 _, at 273.

38 Id. at 271-72. Frijda concludes that deterrence plays a subordinate role to the pain the vengeful victim hopes to inflict. Id. at 273.
39 Kolnai, supra note # –, at 215-16.

40 George Fletcher, Basic Concepts of Criminal Law 83 (New York: Oxford, 1998); H. L. A. Hart, Legal Responsibility and Excuses, in Punishment and Responsibility 28, 44 (Oxford 1968). As a contemporary moral philosopher notes, “[w]hen we ascribe moral responsibility to a person, we imply that her defects can be attributed to her in some sense that goes beyond the mere imputation of a fault to an object.” We are making statements about the “quality of the agent's will.” It is that facet of moral evaluation which permits us to accept excuses and understand the rational basis of our criticism. Hilary Bok, Hilary Bok, Freedom and Responsibility 36 (Princeton 1998).

41 Sanford H. Kadish, Excusing Crime, 75 Cal. L. Rev. 257, 263-65 (1987)..

42 Writing in 1796, Kant concluded that punishment, at least following murder, is a categorical obligation: “Even if a Civil Society resolved to dissolve itself with the consent of all its members—as might be supposed in the case of a People inhabiting an island resolving to separate and scatter themselves throughout the whole world—the last Murderer lying in the prison ought to be executed before the resolution was carried out.” Immanuel Kant, Philosophy of Law 198 (trans. by W. Hastie; Edinburgh, Augustus M. Kelley, 1974 ed.).


44 Kolnai, supra note # –, at –.

45 See Jeffrie G. Murphy, Getting Even: Forgiveness and Its Limits 36-8 (Oxford 2003) (discussing the issue of whether the obligation to forgive is conditional or unconditional).
This does not mean that we cannot feel reactive emotions vicariously; clearly we can. See Strawson, supra note # --, at 70-2.

Jeffrey Murphy, Forgiveness and Resentment, in Murphy and Hampton, supra note # --, at 15-19.


The information in this paragraph is taken from Edelman, supra note # --, at 75-9. See also id. at, at 78 (noting that the immune system is a “recognizing system [that] first generates a diverse population of antibody molecules and then selects ex post facto those that fit or match. It does this continually and, for the most part, adaptively.”). Edelman won the 1972 Nobel Prize in medicine for this discovery.


There is a body of thought that presents brain activity as computational, operating something like a computer processing algorithms. On this view, there is room for instruction. See, e.g., Steven Rose, Neurophilosophy: Mind Over Matter, The Guardian (London) Online, December 22, 1994, at T20 (page cites unavailable on line). The problem with this computational model, though, is that unlike computers, we don't store bytes of coded information; rather memory operates dynamically to enhance “a previously established ability to categorize.” Edelman, supra note # --, at 102. As many researchers have pointed out, there is no central storage system wherein algorithmic functions might be stored and so take place. See, e.g., Rose, supra; (Book Review) Keith Sutherland, Search for a Switch to Light Up the Brain Box, The Times Higher Education Supplement, Oct. 13, 2000, at p. 32 (page cites unavailable on line); William R. Clark and Michael Grunstein, Are We Hardwired? The Role of Genes in Human Behavior esp. Ch. 7 (Oxford 2000); Daniel Coleman, Investigations of the Brain Finding Clues to the Mind, The N.
Y. Times, April 22, 1986, at sec. C, p. 1 (quoting Harvard cognitive psychologist Stephen Kasslyn on the involvement of a wide distribution of neural networks throughout the brain for each component involved in a mental act). Our perceptual unification system, however it works, seems to be decentralized to a remarkable—and, yes, counter-intuitive—degree.

52 Gazzaniga, supra note # –, at 14. In fairness, there is some dispute about the extent to which the environment may effect brain anatomy after birth. See Rose, supra note # –, at – (describing in either/or terms the distinction between instruction and selection). See note – supra.


55 The phrase is from Henry Plotkin, Darwin Machines and the Nature of Knowledge (Harvard 1994) quoted in Wilson, supra note # –, at 31.

56 Wilson, supra note # –, at 31. In their work on the neuropsychology of forgiveness, the authors suggest that the evolutionary and adaptive path toward forgiveness followed the development of encephalized functions in the prefrontal cortex and the inferior parietal lobe. Andrew B. Newberg, Eugene G. D'Aquili, Stephanie K. Newberg and Verushka deMarici, The Neuropsychological Correlates of Forgiveness, in Michael E. McCullough, Kenneth I. Pargament and Carl E. Thoresen (eds.), Forgiveness: Theory, Research, and Practice (New York: Guilford Press 2001).

It is important to note that when biologists speak of the “random” nature of natural selection (genetic polymorphisms or mutations), they are not asserting that adaptation is a chance affair; they are asserting that genetic mutation is generally operates inefficiently, based on matters of chance, but that those changes that enhance fitness are the most likely to be passed on to the next generation. See, e.g., Michael

57 There is at least one school of thought that suggests that even if this is correct, it is “unlikely to generate practical strategies” because (a) some of the responsible genes may be relevant to useful, productive behavior; (b) levels of testosterone that conduce to aggressive behavior affect numerous brain sites, and therefore cannot by controlled sufficiently to prove useful in controlling aggression; and (c) any useful diagnostic procedures would be highly intrusive and over-inclusive. See Tabitha M. Powledge, Genetics and the Control of Crime, 46 Bioscience No. 1 (Jan. 1996), at www.aibs.org/biosciencelibrary/vol46/jan.96.crime.html (page cites unavailable). Cf. Kenneth F. Schaffer, Genetic Explanations of Behavior, in David Wasserman and Robert Wachbroit eds., Genetics and Criminal Behavior 79, 83 (Cambridge 2001) (noting that “genes do not work in a solitary manner – they act in concert with other genes, often with many genes”).


59 Wilson, supra note # –, at 31.

60 A behavior is said to be altruistic in the evolutionary sense of that term if it involves fitness cost to the donor and confers a fitness benefit on the recipient . . . in the currency of reproductive success. “ Elliott Sober and David Sloan Wilson, Sober and Wilson, Summary of: Unto Others, in Katz, supra note # –, at 185, 185 (originally published in 7 J. Consciousness Studies 185 (2000) (hereafter, Summary).

61 Charles Darwin, The Descent of Man and Selection in Relation to Sex 166 (New York: Appleton 1871) (noting that an individual who sacrifices his life for the group will not reproduce, but “a tribe including many members who . . . were always ready to give aid to each other and sacrifice themselves for the common good, would be victorious over most other tribes; and this would be natural selection”) quoted in Biological Altruism, http://plato.stanford.edu/entries/altruism-biological/ (2003). See Benjamin
Kerr and Peter Godfrey-Smith, *Individualistic and Multi-level Perspectives on Selection in Structured Populations*, 17 Biol. & Philos. 477, 478 (2002) (noting that the forces of selection can operate at different levels and can be opposed to one another at those levels). For a brief discussion of the role on kinship selection and reciprocal (or biological) altruism, see my *On the Nature of the Action-Omission Network*, – Ga. St. U. L. Rev. – (Forthcoming, 2008) (presenting an explanation for the act- omission distinction for purposes of accountability and the existence of a “special status” relationship for finding a “duty”).

62 The most notable critic was George C. Williams, *Adaptation & Natural Selection: A Critique of Some Current Evolutionary Thought* (Princeton 1966). For a long time the prevailing view was that altruistic behavior is an anomaly. If natural selection operates only at the genomic level to behave in ways that increase one's own chances of survival and reproduction, then altruism should not exist because it tends to reduce one's own fitness. Sober and Wilson, *Summary, supra* note # –, at 186; *Biological Altruism*, http://plato.stanford.edu/entries/altruism-biological/ (2003).

63 Among the most valuable work in this regard is Elliott Sober and David Sloan Wilson, *Unto Others: The Evolution and Psychology of Unselfish Behavior* (Harvard 1998). The work is summarized by Sober and Wilson, *Summary supra* note # –.


65 I am working on this very topic in *Normative Neuroscience and Criminal Law: Progressive Democracy and the Normal Distribution*.


67 Recently, many biologists and philosophers of science have come to embrace developmental
systems theory, which holds that genes are not alone among the causative factors involved in human social development. See Okasha, supra note # –.

68 See, e.g., id.


71 Sarah Coakley and Martin A. Nowak, Evolution and Theology of Cooperation (an undated research proposal) http://www.fas.harvard.edu/~etc/research/proposalExcerpt.pdf.


74 Laurie Caro, Game Theory and Evolution, 9 The Ethical Spectacle (1995) (page cites omitted) at http://serendip.brynmawr.edu/bb/berman/P4S3.htm

75 See, e.g., Jessica C. Flack and Frans B. M. De Waal, “Any Animal Whatever: Darwinian Building Blocks of Morality in Monkeys and Apes, in Katz supra note # –, at 9-11. See generally De Waal, Good Natured supra note # –.


77 See Oliver Wendell Holmes, Jr., The Common Law 6 (Mark Dewolf Howe ed., 1963).
78 For a highly readable account of the evidence for this conclusion see de Waal, Good Natured, supra.


80 See, e.g., Peter Railton, Darwinian Building Blocks, in Katz, supra note # –, at 57 (emphasis in the original).


85 E.g., Wilson, supra note # –.

87Newberg, et al., supra note # --, at 94.

88Carl E. Thoresen, Alex H. S. Harris, and Frederic Lushkin, Forgiveness and Health, in McCullough et al., supra note # --, at 254.

89Newberg, et al., supra note # --, at 97-8.

90See Julian Juola Exline and Roy F. Baumeister, Expressing Forgiveness and Repentance, in McCullough et al., supra note # --, at 133, 138.

91Wilson, supra note 3 --, at 194-95.


93See Tancredi, Hardwired Behavior supra note # --.

In a fascinating longitudinal study that addressed the effects on violent behavior of a genetic mutation in the gene that encodes the neurotransmitter monoamine oxidase (MAOA), which has been associated with violence, Avshalom Caspi and his colleagues tested the hypothesis, suggested by earlier research, that “childhood maltreatment predisposes most strongly to adult violence among children whose MAOA is insufficient to constrain maltreatment-induced changes to neurotransmitter system.” Avshalom Caspi, et al., Role of Genotype in the Cycle of Violence in Maltreated Children, 297 Science 851, 851 (2002). Controlling for variables that were overlooked in previous research, Caspi’s group found that young boys who suffered deficits in this key neurotransmitter that blocks the degradation of an important enzyme and who grew up in an abusive environment were substantially more likely to engage in violent, anti-social behavior that led to unwelcome interactions with the criminal justice system than were boys
raised either with the deficit but in a reasonably healthy environment, of who were raised in a healthy environment without the MAOA deficit. The study is available online at 


95 Much of what follows in this and the next two paragraphs was influenced by From Michael J. Murray, Forgiveness and Repentance, available on line at http://72.14.207.104/search?q=cache:ox0vtvf9c0J:server1.fandm.edu/departments/Philosophy/staticpag es/Murray/forgiveness.pdf+forgiveness+philosophy&hl=en&gl=us&ct=clnk&cd=41.

96 See note –, supra.