

The Biological Roots of Punishment*

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I. INTRODUCTION

The mysteries of the human condition are nowhere more apparent than in our criminal courts, where judges must struggle daily with remarkably profound and often unanswerable questions. What is the nature of good and evil? Why do people commit crimes? Why do we all, as David Hume once wrote, contain a particle of the dove next to elements of the wolf and serpent?¹ Why do the wolf and serpent prevail in some of us so often and so violently, yet in others of us so seldom and so mildly? Looming in the foreground is yet another profound question, one that has been the subject of jurisprudential debate, and great confusion, since the dawn of law: Why do we punish wrongdoers?

Because people draw their views about punishment from their religious and philosophical concepts of human nature, punishments vary with cultural traditions and over time. Despite these variations, punishments are characteristic of every legal system. In fact, sanctions imposed on individuals by other group members are among the human universals of behavior cataloged by ethnographers.² This ubiquitous occurrence calls for an explanation, and in this essay we argue that some insight might be achieved by exploring how human nature has been shaped by evolution. To put the question somewhat crudely, do humans have an “instinct” for punishment? If so, what could that mean, and how and under what circumstances is it likely to be expressed?

We recognize there is significant danger in trying to use biology to enlighten human social issues. Perils include not only the usual interdisciplinary frictions,

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¹ DAVID HUME, ENQUIRIES CONCERNING HUMAN UNDERSTANDING AND CONCERNING PRINCIPLES OF MORALS 271 (L.A. Selby-Bigge ed., 3d ed. 1975).

² See generally DONALD E. BROWN, HUMAN UNIVERSALS (1991); Donald E. Brown, *Human Universals*, in THE MIT ENCYCLOPEDIA OF THE COGNITIVE SCIENCES 382 (1999).

but also a special challenge when it comes to behavior and evolution. Beginning with Herbert Spencer and the other Social Darwinists and extending to the present, Darwinian principles have been misstated in sweeping metaphors or bent to fit particular social agendas. Examples come from both ends of the political spectrum.

But as Mark Twain said, a cat that gets burned on a hot stove never sits on a hot stove again, but never sits on a cold one either. During the last half of the twentieth century, knowledge of the brain has begun to merge with an understanding of the evolution of social systems, providing a deeper understanding of the origins of human nature.³ The time has therefore come to explore some cold stoves at the intersection of law and biology, and in particular at the intersection of punishment and evolution.

II. SOME BASICS ABOUT EVOLUTION AND BEHAVIOR

To understand our behavior we must recognize that history unfolds over two very different scales of time. One is familiar because each of us lives it. Our behavior is influenced by our experiences, from embryonic development through maturation into adulthood. But change on the second scale is imperceptible because it spans thousands of human generations. Features common to all members of the species have emerged slowly through the process of natural selection.⁴ Corresponding to these two scales of time, we can distinguish proximate causes (those influences working on an individual) and ultimate causes (events that shaped evolutionary history). The two modes of causation are not alternatives; they speak to different processes, both of which are real, natural, and important to an understanding of living creatures.

At the outset we also need to dispel two common misconceptions. First, human nature does not embody anything as crude as “genetic determinism.” Genes do not function independently of their environment; indeed, the very crux of

³ For a detailed discussion of these issues, see STEVEN PINKER, *THE BLANK SLATE: THE MODERN DENIAL OF HUMAN NATURE* (2002); see also Owen D. Jones, *Time-Shifted Rationality and the Law of Law's Leverage: Behavioral Economics Meets Behavioral Biology*, 95 NW. U. L. REV. 1141 (2001).

⁴ Natural selection is the sifting of alternative genes that occurs because some alleles (variants of genes) endow their bearers with a higher probability of reproductive success than do others. As the beneficiaries of these advantageous genes produce more offspring, their genes become more common in the population. Genes that confer a reproductive disadvantage on their bearer will become less common. Different species emerge when differences in the utility of many genes are expressed over many generations. Animal behavior is no less susceptible to the processes of natural selection than is animal morphology. That is, genes that confer an advantageous behavior will spread just like genes that confer an advantageous physical trait. (This is so because heritable effects on behavior have physical manifestations in the brain.) For an introduction to a contemporary understanding of genes, evolutionary social theory, primate evolution and behavior, and culture as an aspect of the human phenotype, see TIMOTHY H. GOLDSMITH & WILLIAM F. ZIMMERMAN, *BIOLOGY, EVOLUTION, AND HUMAN NATURE* (2001).

natural selection is the interaction of the gene with its environment. And that environment is all embracing. It includes the neighborhood of other genes, the cell in which genes are housed, the internal environment of the organism of which the cell is but a tiny part, and the external environment in which the organism makes its way in the world.

Second, and particularly significant to any discussion of the evolution of human behaviors, is that brains, not genes, generate behavior. But individual brains are themselves the product of this dual history of proximate and ultimate causes. Individual brains learn through the lifelong experiences of their owners, but they employ neural architecture that is the product of hundreds of thousands of years of evolutionary refinement. Thus, brains attend to some sensory information more keenly than to others and show predictable preferences for many behavioral outcomes, even though specific behavioral paths to those outcomes may be unpredictable. Moreover, the very developmental process by which each individual brain is crafted is itself an outcome of evolutionary history. Thus, brains are dependent on particular sensory input at prescribed times during postnatal development in order for their synaptic connections to form properly and for linguistic and social skills to emerge in their most advantageous forms.⁵

Our cognitive capacities, which are unmatched in the history of living creatures, are housed in the brain together with neural centers that stir the emotions in ways evolved to attend to our well-being. Anger, fear, pleasure (of many kinds), jealousy, lust, greed, sympathy, and feelings of guilt are among the emotive forces that both propel and inhibit our conscious choices.⁶ This is hardly news, but it is a useful reminder that we are not totally rational actors.

Human nature has an essential duality: we are unique individuals, but we are also profoundly social. Sexual reproduction, and its attendant reshuffling of genes in each generation, makes each individual genetically unique. Moreover, the detailed experiences of each life are unique, which is why even monozygotic twins are not really identical. Each individual is also the vehicle through which his or her genes find expression; thus, like all other organisms, we are built to enhance the chances our genes will propagate into following generations. (As we will see below, this evolutionary construction took place in another environment, so not all of our urges and desires are well tuned to today's world.) But we evolved into an intensely social species.⁷

⁵ Note that we are firmly rejecting the notion that humans are the "blank slates" posited by the extreme environmental determinism that under-girded the social sciences (e.g., behaviorism and much of cultural anthropology) for the first half of the 20th century, and that persists today in some political theory. Ascribing complex biological outcomes to either genes or environment is a false and misleading dichotomy. See PINKER, *supra* note 3.

⁶ ANTONIO R. DAMASIO, *DESCARTES' ERROR: EMOTION, REASON, AND THE HUMAN BRAIN* (1994) (providing a very readable view of what contemporary neurobiology has to say on the interplay of emotion and reason). For a corresponding view from an economist, see ROBERT FRANK, *PASSIONS WITHIN REASON: THE STRATEGIC ROLE OF THE EMOTIONS* (1988).

⁷ The fact that we evolved as social creatures demonstrates that living in social groups conveyed a net adaptive advantage to us as individuals. George Williams pointed out sound reasons

This duality poses a dilemma: unrestrained self-interest is incompatible with social life. Getting ahead requires efforts to get along. Shared genes insure an interest in the well-being of close relatives, a phenomenon that is widely distributed among animals of many species.⁸ In addition, our brains, equipped with the gifts of language and consciousness, have created social systems of unparalleled complexity in which individuals attribute motives and feelings to others and can anticipate the consequences of their own actions. More than any other species, we engage in reciprocal interactions that accrue to the mutual benefit of those who participate.⁹

Reciprocal social exchanges hold a danger for the participants. Self-interest invites cheating, so we are frequently tempted to deceive and are wary of being deceived by others. Although self-interest is encouraged by greed, pride, and lust, it is modulated by a suite of cooperative behaviors reinforced by the desire for friends and respect. Because we are vulnerable to the self-interests of others, we seek social relationships that are stable, or at least predictable. An individual whose self-interest intrudes too much into the lives of others invites aggression, itself an act of self-interest by those aggrieved. Whether instigated by the frontal cortex or propelled by the emotions, all humans seem to share a fundamental urge to punish transgressors—not simply those who inflict a personal injury on each of us, but also those who harm other members of our family or group. This is the context in which we can say, by way of shorthand, that we have an “instinct” to punish.

why selection takes place at the level of individuals, and subsequent analyses have agreed that group selection requires special and rare conditions. See GEORGE C. WILLIAMS, *ADAPTATION AND NATURAL SELECTION: A CRITIQUE OF SOME CURRENT EVOLUTIONARY THOUGHT* (1966). Although the issue of group selection persists, differential reproduction of individuals is the mechanism by which genes are ordinarily selected. See *supra* note 4; see also RICHARD DAWKINS, *THE SELFISH GENE* (2d ed. 1989); RICHARD DAWKINS, *THE EXTENDED PHENOTYPE* (2d ed. 1999).

⁸ See W.D. Hamilton, *The Genetical Evolution of Social Behavior, I, II*, 7 *J. OF THEORETICAL BIOLOGY* 1 (1964). For less technical accounts, see GOLDSMITH & ZIMMERMAN, *supra* note 4.

⁹ The seminal reference in evolutionary biology is Robert L. Trivers, *The Evolution of Reciprocal Altruism*, in 46 *QUARTERLY REVIEW OF BIOLOGY* 35–57 (1971). The decisions we make in reciprocal exchanges (free will, if you wish) are thus compromises between immediate self-gratification and an assessment of longer-term social consequences. The evolutionary argument that reciprocal altruism can increase the genetic fitness of the participants means that from an evolutionary perspective such behavior might not really be altruistic. This does not mean that people cannot act altruistically in the conventional sense of bestowing goodness on others with no hope or expectation of reward. People derive pleasure from many activities: sex, competing in athletics, climbing mountains, telling and listening to (or reading) stories, performing for the appreciation (or adulation) of others, feeling that one’s acts have had a beneficent impact on others, and intellectual exploration of the unknown. It is easy to see how such activities (or their forerunners) were useful in an evolutionary context, and thus came to be reinforced by feelings of pleasure. Beginning with the advent of agriculture, many activities have become largely uncoupled from genetic fitness and are simply done for fun. Clearly, foregoing children for other pleasures has a negative impact on the transmission of one’s genes, but lots of people in more affluent societies now make that choice, and not for religious reasons.

The urge to punish arises from and is modulated by a sense of fairness, and that sense of fairness compels punishments even at a cost to the punisher. This phenomenon has been observed cross-culturally, suggesting that it is part of our evolutionary heritage.¹⁰

The disposition to cooperate without expectation of reciprocation, coupled with a readiness to punish those who do not cooperate, is called “strong reciprocity.” Theoretical modeling shows that strong reciprocity is an evolutionarily stable strategy likely to have played a role in the emergence of human societies.¹¹ Thus, the urge to punish free riders, even at a cost to the punisher, is quite likely an evolved mechanism that encourages behavior redounding to the benefit of the group, and therefore ultimately to the benefit of individual group members.

The art of getting along in a social group also requires recognition of how one’s own behavior is perceived by others, accompanied by a desire to moderate one’s actions so as to be viewed favorably by others and thus avoid reproach, or worse, wrath. A conscience is an early warning system, an alarm bell that says fences need mending. Conscience is not fear of physical punishment. It is an inner voice tugging at our emotions as it reminds us that a particular act is not above reproach. It makes us feel uncomfortable about an impending loss of others’ respect, or simply the self-knowledge that we have not lived up to our own code of conduct. In some cases it may help to acknowledge that punishment is necessary

¹⁰ In a game researchers have dubbed the “one-shot ultimatum game,” two players, A and B, are told that A has money (or useful goods) and that he must choose a fraction to offer to B. Both players know the total amount available for division. They are also told that if B accepts the offer, the money will be divided as A has proposed, but that if B rejects, neither will get anything. Classical economic assumptions about self-interest predict that A will offer very little, and that no matter how small the offer, B will accept it. In industrial societies, however, the modal offer is 50%, the mean is around 40%, and offers lower than 30% are frequently rejected. If the offer is too low, B is willing to go home empty handed, mollified by the satisfaction of having punished his unfair anonymous partner. The results are uninfluenced by the size of the stake: if it is large, A appears to recognize that his self-interest will be seriously vitiated if his offer is rejected as being unfair. See HERBERT GINTIS, *GAME THEORY EVOLVING: A PROBLEM-CENTERED INTRODUCTION TO MODELING STRATEGIC BEHAVIOR* 252–54 (2000).

The same phenomenon has been observed in a comparative study of pre-industrial cultures. See Joseph Henrich et al., *In Search of Homo Economicus: Behavioral Experiments in Fifteen Small-Scale Societies*, 91 AM. ECON. REV. 73 (2001). There was more variation in A’s offer than found in industrial cultures (mean: 26%–58%; mode: 15%–50%). *Id.* at 74–75. The lowest offers occurred in societies where the incidence of cooperation and market practices was low, and here rejection was rare. Offers were higher where exchange was frequent. Where receipt of a gift is thought to impose a future obligation at a time determined by the giver, however, even offers greater than 50% might be refused. *Id.* at 76.

Economic self-interest is thus modulated by a sense of fairness, which in turn is tuned by cultural norms.

¹¹ Herbert Gintis, *Strong Reciprocity and Human Sociality*, 169 J. THEORETICAL BIOLOGY 206 (2000).

in order to reestablish one's place in the social network. This is the limited sense in which one might say we have an "instinct" to be punished.

This tension between the self and others is often characterized as a battle between brute nature in the form of naked self-interest and God's call for love and cooperation. Civilization, in this view, is an entirely cultural (or theological) social mechanism by which our individual instincts for self-interest must be repressed by the force of law. But as Hume recognized, though without the full benefit of Darwinian insights, the particle of the dove is "kneaded into our frames" just as permanently as the elements of the wolf and serpent.¹² All of the great plaguing questions of humanity—man's relationship to God, man's relationship to man, the presence of good and evil, original sin, forgiveness, natural law and inalienable rights, the functions and limitations of a just government, collectivism versus individualism—are variations of the ancient tension between the pull of self-interest and the requirements of an increasingly complex social milieu, a subject on which evolutionary biology is beginning to cast a clarifying light.

III. THE NATURALISTIC FALLACY

When we ask *why* we punish, it is fair to distinguish between two questions: 1) why punishment seems so natural; and 2) why governments have a right to punish.

The essence of the naturalistic fallacy is the mistaken assumption that what is "natural" is necessarily "good." For example, the Social Darwinists believed (incorrectly) that the tycoons of the Industrial Revolution occupied their positions of wealth and power in consequence of a natural evolutionary process, and therefore (also incorrectly) that that state of affairs was necessarily morally good.

If there is an "ought" apart from the "is," where does the "ought" come from? One explanation is culture, and indeed there are wide variations in people's sense of right and wrong depending on their culture. Nevertheless, there seems to be a core of morality embedded in all of us that is independent of culture and that has to do with family, friends, and a sense of fairness. But where did this core come from? Philosophers have struggled for centuries to define a common set of universals underpinning ethical decisions, but the exercise has not been completely satisfying. Intuitionists and proponents of natural law would say that the "ought" is just there, "self-evident," inherited either from God or from a set of *a priori* propositions they are simply unwilling to examine. Others have seen ethics as entirely determined by culture, with duties associated with social station (Hegel), or derived from economics and with no immutable core of human nature (Marx). Even today, some continue to argue that any core of morality is an illusion—on the left, an illusion perpetrated by those in power; on the right, an illusion of self-interested participants in the marketplace.

¹² See *supra* text accompanying note 1.

Hume had an important insight when he asserted that moral decisions are not the exclusive province of reason, because people need to *feel* that decisions are good before they are inclined to act on them. From today's vantage point, we know that all cognitive activity (at least in the social domain) is colored by the emotions, so in an important sense our "oughts" do have a natural origin. They are generated by brains that have been crafted in evolutionary time to be able to weigh the consequences of alternative behaviors, but through a process in which our visions of possible outcomes are suffused with affective content. What should I do to get even with him? Should I tell others that nasty story about him that I heard last year? What if he finds out I am the person who is spreading the rumor? What if the story isn't true? And so forth.

This evolutionary insight—that our evolved behaviors are not simply a set of selfish urges that only civilization can overcome, but in fact include an urge for civilization itself—may be one of the most important contributions of neo-Darwinism, and it has great significance for the law and biology movement. As our cognitive abilities evolved in tandem with the emergence of culture, our urge to punish individuals who break the social contract appeared as an important stabilizing feature. Put this way, the urge to punish is not only natural, it is also a normative explanation of why government has the right to punish. Punishing wrongdoers is a critical part of the glue that holds people together in groups, and ultimately a defining characteristic of all civilizations. Punishment is a duty of civilized society not because all societies embrace it—that would be falling into the naturalistic fallacy—but rather because it is a central part of what being civilized is all about.

IV. THE EVOLUTIONARY RATIONALE FOR PUNISHMENT

The genes that made modern humans emerged during the last several hundred thousand years, and the ancestors of all contemporary humans migrated out of Africa perhaps less than 100,000 years ago. Genetic changes continue to this day, but the basic properties of our brains were likely in place by 50,000 years ago. As a species we evolved into successful hunter-gatherers, living in small groups of likely fewer than about 100 related individuals, and under conditions that required social cooperation. We are especially sensitive to the needs of kin, but are frequently suspicious, even hostile, to strangers and responsive to appeals to band together and protect ourselves from the interests of other groups. In a relatively unstructured social system, people are pretty much on their own if they are victimized by others. Close friends or family might be of assistance, but a reputation for physical retribution can do a lot to discourage others from preying on the individual. These conditions exist today in pockets of society that effectively lie beyond the reach of the law. Such conditions likely also existed among small groups of hunter-gatherers.

It does not take much imagination to see the advantage of collective punishment. For many individuals the emotional need for group acceptance makes

the threat of opprobrium, loss of privilege, or in extreme cases, banishment, a strong deterrent. Furthermore, group involvement holds the potential for rational discourse by third parties. Group stability is enhanced when judgment by others can take the place of personal vengeance driven by the emotions. And of course group stability is in the genetic interests of the individual members.

Punishment by the group addresses a central problem: the free rider. The individual who does not participate in the hunt or who otherwise shirks group responsibility can become a social parasite, using resources obtained by the sweat of others' brows and consequently sowing discord among the rest of the group. The individual who shirks his social duties annoys and angers us. We feel motivated to punish because the miscreant's behavior has violated some intrinsic sense of fairness that is latent in each of us, and which helps protect our self-interest in social exchanges. Some counter-measure or some form of retaliation can increase the cost of free riding and thus reduce the chance of such behavior occurring in the future. Advertising that cost sends a message to others who may be thinking about free riding.

An urge to punish free riders would have been quite evolutionarily advantageous. Without such an urge, nothing would restrain unbounded selfishness, and social groups would have fallen apart in anarchy, to the reproductive detriment of their individual members. The fact that we evolved into such deeply social creatures means that we likewise evolved mechanisms to reduce free riding. Indeed, in a fundamental way, punishing free riders is very much at the heart of what a cohesive social group is all about. A group requires rules for membership, and therefore mechanisms for ouster.

V. OSTRACISM

Ostracism is a sanction imposed for the violation of a social rule or custom. It can take many forms, both formal and informal. Because, in its essence, ostracism is employed "in the manipulation of conflicts and confluences of interests,"¹³ it also has evolutionary implications. Some have therefore sought to identify antecedents of ostracism in other mammals, particularly primates. For example, when a young male chimpanzee challenges the dominant male, the latter may solicit support from females, the group is thrown into a short period of turmoil, and even juveniles, who normally would know their place, harass the pretender. In fact, several of the basic features of human social interactions exist in nascent form in non-human primates, particularly the great apes: struggles for dominance,

¹³ Richard D. Alexander, *Ostracism and Indirect Reciprocity: The Reproductive Significance of Humor*, in *OSTRACISM: A SOCIAL AND BIOLOGICAL PHENOMENON* 105, 106 (Margaret Gruter & Roger D. Masters eds., 1986), published simultaneously in *7 ETHOLOGY & SOCIOBIOLOGY* 253, 254 (1986).

formation of alliances, reconciliation after fractious encounters between group members, and hostility to members of other groups.¹⁴

Although care needs to be exercised in analogizing human behavior to that of other primates,¹⁵ the human brain seems evolutionarily prepared to employ ostracism in the normal course of social relations. Young children shunning a playmate show how readily the behavior can be evoked,¹⁶ and its pan-cultural occurrence supports the view that ostracism is part of the social toolbox with which evolution has equipped us.

Ostracism is a word that describes a continuum of many different kinds of socially exclusionary behaviors. In its most extreme forms, it can include permanent banishment from the group, or even execution. In its mildest forms, it can include a mother's disapproving glare at a misbehaving child. As one anthropologist has graphically described it, "the 'cold shoulder' is only a step along the way to execution."¹⁷

Religious teachings are rife with examples of ostracism.¹⁸ Anthropologists have found evidence of ostracism in virtually all technologically primitive societies. The Cheyenne banished for one to five years anyone who killed a fellow tribesman; abortion was also a banishable crime among the Cheyenne.¹⁹ Samoans defying the village good had their property confiscated and, for serious crimes, their families expelled from the village; Samoan adulterers were banished to neighboring islands.²⁰ The Pathan Hill Tribes of eastern Afghanistan and western

¹⁴ See, e.g., FRANS DE WAAL, *CHIMPANZEE POLITICS: POWER AND SEX AMONG APES* (1982); FRANS DE WAAL, *PEACEMAKING AMONG PRIMATES* (1989); RICHARD WRANGHAM & DALE PETERSON, *DEMONIC MALES: APES AND THE ORIGINS OF HUMAN VIOLENCE* (1996).

¹⁵ For example, the rejection by chimpanzees of strangers from other troops (Jane Goodall, *Social Rejection, Exclusion, and Shunning among the Gombe Chimpanzees*, in *OSTRACISM: A SOCIAL AND BIOLOGICAL PHENOMENON*, *supra* note 13, at 79) and the dispersion of (usually) male mammals from their natal colony (Jane B. Lancaster, *Primate Social Behavior and Ostracism*, in *OSTRACISM: A SOCIAL AND BIOLOGICAL PHENOMENON*, *supra* note 13, at 67) are not instances of ostracism as that word is commonly understood, and are not analogous to the examples of ostracism by humans discussed in this essay.

¹⁶ See, e.g., Carol Barner-Barry, *Rob: Children's Tacit Use of Peer Ostracism to Control Aggressive Behavior*, in *OSTRACISM: A SOCIAL AND BIOLOGICAL PHENOMENON*, *supra* note 13, at 133.

¹⁷ Lancaster, *supra* note 15, at 68.

¹⁸ Of course, the most famous ostracism of all was God's banishment of Adam and Eve from Eden. *Genesis* 3:23–24. The New Testament refers several times to congregations banishing sinful members. See, e.g., *Matthew* 18:17; *John* 16:2; *1 Corinthians* 5:13. The severe nature of exile is employed as a measure of character in the Hindu legends *The Ramayana* and *The Mahabharata*, where principal individuals are banished for periods of years. Rama's banishment is almost self-imposed and is an act of honor; in *The Mahabharata*, the precipitating cause is foolishness in gambling. But in both instances the banishment is engineered by self-interested third parties with whom the reader is not encouraged to sympathize, and exile becomes a period of preparation and testing for greater things.

¹⁹ See E. ADAMSON HOEBEL, *THE LAW OF PRIMITIVE MAN* 155, 157 (1954).

²⁰ See *id.* at 320–21.

Pakistan ostracize by exile, though, interestingly, the exiled tribesmen maintain ownership of their lands.²¹ In one of the most extreme forms of ostracism, Montinegrin tribes as late as the late 1800s participated in “clan killings,” in which a clan member’s violence against another clan was punished by having the offender’s own clan execute him to avoid inter-clan blood feuds.²²

Although the punishment of crime in ancient and classical times typically remained a matter of private revenge, a few crimes were deemed so detrimental to the society as a whole that systems of formalized ostracism were developed. From before the time of Solon in 700 B.C., Greeks imposed a form of ostracism they called *atimia*—for particularly heinous crimes including sacrilege and treason—which resulted in the criminal being denied the right to possess any goods, and thus usually being forced to flee.²³

In fact, our word “ostracism” comes from the Greek word *ostraka*, which means “shard.” It derives from the highly ritualized Athenian practice, dating from the sixth century B.C. but pre-eminent in the fourth century B.C., in which every year citizens would write, on a shard of broken pottery, the name of a fellow citizen they thought particularly powerful or overbearing or otherwise dangerous to social stability. The “winner” would be banished for ten years (though, like the Pathan Hill outcast, he retained his property).²⁴

Under Roman law, by contrast, banishment was authorized only for certain serious crimes against the state, not for mere hubris. The outcast criminals were sent away from their city, town or province, their properties were seized, and all other citizens were at liberty to kill them.²⁵ The Romans called the decree of outlawry *caput gerit lupinum*—literally, “to wear the head of a wolf,” meaning to be put out and hunted like a wolf, and that edict found its way into English law under the anglicized term “*Wolvesved*.”²⁶

In the Middle Ages, as the organized Church became entangled with the state, formalized ostracism was expressed in both ecclesiastical and non-ecclesiastical law. People could be excommunicated from the Church, banished from the village

²¹ Niloufer Qasim Mahdi, *Pukhtunwali: Ostracism and Honor Among the Pathan Hill Tribes*, in OSTRACISM: A SOCIAL AND BIOLOGICAL PHENOMENON, *supra* note 13, at 147, 153.

²² Christopher Boehm, *Capital Punishment in Tribal Montenegro: Implications for Law, Biology, and Theory of Social Control*, in OSTRACISM: A SOCIAL AND BIOLOGICAL PHENOMENON, *supra* note 13, at 157, 164–65.

²³ See Reinhold Zippelius, *Exclusion and Shunning as Legal and Social Sanctions*, in OSTRACISM: A SOCIAL AND BIOLOGICAL PHENOMENON, *supra* note 13, at 11, 13.

²⁴ See, e.g., David C. Mirhady, *The Ritual Background of Athenian Ostracism*, 11 THE ANCIENT HIST. BULL. 13 (1997). The ostracism vote could take place only after a preliminary vote, in which a majority of citizens had to agree that such an ostracism vote should take place for that year.

²⁵ Near the end of the Republic, the Roman aristocracy turned ostracism on its head. Aristocratic lawbreakers could afford to escape trial and punishment by fleeing abroad. See Zippelius, *supra* note 23, at 13.

²⁶ See FREDERICK POLLACK & FREDERIC MAITLAND, 2 HISTORY OF THE ENGLISH LAW BEFORE THE TIME OF EDWARD I 449 (2d ed. 1888).

or banished from the entire Empire, temporarily or permanently and in any combination. Serpentine refinements in degrees of excommunication began to evolve, and some have persisted. *Excommunicato minor* disabled the miscreant only from communion. *Excommunicato major* disabled him from all contact with others. In between, any particular set of church rights could be suspended for particular kinds of misbehavior, in a process called “the personal interdict.” As late as 1983, the Church differentiated between the *excommunicati tolerati* (those who were excluded from the mass and the sacraments) and the *excommunicati vitandi* (those who were suspended from civil relations).²⁷

Protestants carried on many of the most severe forms of ostracism, especially the Lutherans and Calvinists. Indeed, in Calvin’s own Geneva, the most severe form of excommunication combined the ecclesiastical *excommunicato major* with a complete barring of social relations and expulsion from the city-state.²⁸ Remnants of this severe form of Protestant ostracism found their way to our shores with the Pilgrims, and persist in modern times in the shunning, or “meidung,” practiced by the Old World Amish.²⁹

Of course, one need not be an anthropologist, an historian, or Amish to know that ostracism is continuously operating in every set of human relations in all cultures. Every time we give our spouse the silent treatment, or send an unruly student to the principal’s office, or don’t invite one of our co-workers to our usual Friday lunch, we are practicing mild forms of ostracism. Every day that trial judges sentence convicted defendants to prison, they are acting as the community’s engine of organized ostracism.

VI. MODERATING PUNISHMENT

Ostracism inflicts a serious, in the limiting case lethal, cost on the person ostracized, but 50,000 years ago it also inflicted a somewhat more subtle, but widespread, cost on the ostracizing group. Banishment on pain of death may seem simple, but it is severe and requires a collective will to enforce. The person to be banished may resist and injure other members of the group. In a small group, the removal of an able-body from the workforce can require others to work harder or weaken the group in its interactions with other groups. Close kin of the person being punished may extract revenge from other members of the group.

If ostracism became too frequent or punishments too harsh, at some point the costs to the ostracizers would have outweighed their benefits. Consequently, our urge to punish is calibrated, and with reflection we are able to anticipate that costs may indeed exceed benefits. Furthermore, intimate knowledge of the character of the rule-breaker may lead us to believe that he is not a hopeless case, that a lesson

²⁷ See Zippelius, *supra* note 23, at 15.

²⁸ See *id.* at 16.

²⁹ See generally Margaret Gruter, *Ostracism on Trial: The Limits of Individual Rights*, in *OSTRACISM: A SOCIAL AND BIOLOGICAL PHENOMENON*, *supra* note 13, at 123.

can be learned, and that in the future he can be a useful member of the group. There are thus utilitarian arguments for making the punishment fit the crime.³⁰ Note that in the environment that shaped our evolution, moderating punishment in this fashion would feed back on the process of natural selection, because behaviors that worked in the long term to generate group solidarity and strength would be in the interests of the genes of the individual group members.

Just as the social environment in which we evolved likely created the urge to modulate our punishments of other members, it led to a modest capacity to accept punishment for social infractions. The reason is likely the long-term need to be accepted by other members of the group. Without some capacity to comprehend the effect of one's behavior on others and to submit to punishment, enforcement costs would simply have been too high to prevent free riding, and social life would have become impossible.

On the other hand, individuals so meek as to accept any kind of punishment would not have been around to inherit the earth. An individual who offered the Pleistocene equivalent of "Sure, go ahead and kill me for that parking violation" would have been the object of strong negative selection and would not have been an ancestor of philosophers who assert that ethics follow from individual rights.

VII. JUSTICE, FORGIVENESS, CONTRITION, AND EQUALITY

Each of us hears conflicting and often inarticulate inner voices, one asserting that even the most contrite and reformed sinners must still pay some price for their sins, the other calling for mercy and forgiveness and asking us to empathize with the criminal. So it is not surprising that collectively we struggle to balance the form and amount of punishment that is appropriate, a struggle that lies at the heart of what we mean by "justice."

The propensity to forgive, like that to punish, also had adaptive value. A capacity to forgive transgressions would have been useful for a couple of reasons. Without a willingness, at some point, to receive the transgressor back into the fold, the very utility of punishment—to preserve social cohesion—could not have been realized. Thus, a transgressor could regain his social standing by enduring proportionate punishment. Forgiveness also expresses potential self-interest, for if the tables should be turned, today's forgiver may well want to be the recipient of tomorrow's forgiveness.

Contrition is an acknowledgement that some sort of punishment is deserved. If others see it as sincere, it can serve to deflect punishment, the social fabric is repaired, punishment's costs are avoided, and everyone wins. Of course, if

³⁰ The mechanisms we choose to set rules can also affect the severity of punishment. In a democracy (as opposed to less representative forms of government), in which the law reflects, at least theoretically, the rules by which most citizens are willing to abide, less force is necessary to punish breaches of the social contract precisely because it is a social contract.

contrition is coerced as humiliating, public self-abasement, it becomes a form of punishment.

The two faces of justice—to deal firmly with transgressors, but not too harshly—reflect an intrinsic human sense of fairness and are important to the political ideal of equality. When Aristotle commands that like cases be treated alike, he is touching both on the personal notion that none of us wants to be punished more than anyone else (and therefore on our self-interest) and on the social notion that none of us wants to punish others more than they deserve (and therefore on the equilibrium between our inclination to punish and our intuitions about fairness and sympathy). When sentencing guidelines address the tension between sentencing individual defendants and coordinating the sentences of similarly situated defendants, they are touching on this very same duality.

VIII. A NEO-DARWINIAN VIEW OF PUNISHMENT AND RETRIBUTION

Where does this analysis leave the traditional views of punishment? According to the rehabilitationists, in a perfectly enlightened post-Freudian society there can be no punishment at all, because there are no intentional wrongs, only a spasmodic confluence of other causes (our poverty, our schools, our diet, our friends, our mothers, our atoms). This could only be true if we came into this world as soft, amorphous balls of clay, ready to be turned into something recognizable by whatever potter's wheel culture happened to use. But of course this view is not at all consistent with what we know about human evolution and development. Our slates are not full, but neither are they entirely blank. Each of us discovers, with the same inevitability that we learn to talk, how best to balance our self-interests with those of our fellows.³¹

According to the utilitarians, the urge to punish has no place in the law, and punishment is moral only if it deters.³² Vengeance is for uncivilized brutes (or, paradoxically, only for God). Civilized people must therefore impose punishment with a detached and reluctant rationality, aimed simply at making the costs of wrongdoing sufficiently high to deter it. Richard Posner's modern economic version of that same kind of rarified, detached deterrence—substituting a system of fines for the whole of the correctional system—is equally unsatisfying to those of us who have a hunch that there is something more to punishment than setting game-theoretic payoffs.³³ As we have discussed, we have deep urges to punish

³¹ Most people who commit crimes do so because they believe their actions are in their immediate self-interest. They often miscalculate, or more often fail even to consider, the long-term costs. Sadly, we know too little about the conditions—environmental, developmental, and genetic—that may cause an increase in the incidence of such disconnections between acts and consequences.

³² See Jeremy Bentham, *The Rationale of Punishment*, in 1 THE WORKS OF JEREMY BENTHAM 388 (J. Bowring ed., 1962).

³³ Richard A. Posner, *An Economic Theory of the Criminal Law*, 85 COLUM. L. REV. 1193 (1985). Judge Posner recognizes that the problem of judgment-proof criminals makes his proposal more theoretical than practical.

free riders, quite apart from whether that punishment accomplishes any utilitarian goals, and in fact those urges are bound up with our nature as social creatures.

Incapacitation enjoys some resonance with our historic and human urge to banish wrongdoers, but it suffers from the same erroneous presumption of rationality as does deterrence: we simply do not banish free riders to prisons as the result of some detached arithmetic calculation about their likelihood of re-offending. We all sense that certain wrongs must be punished, and the severity of that punishment rarely has anything to do with our assessment of the risks of re-offending.³⁴

Only retribution meshes with the evolutionary insights we have tried to develop in this essay. Retribution has gotten a bad name, not only because of its stubborn insistence on the twin categoricals of “just” and “deserts,” but also because progressives succeeded in labeling it primitive and uncivilized. Part of the problem has been that the word can mean anything from personal vengeance to detached social judgment. If we limit it to personal vengeance, as the critics of retribution try to do, then emotions are the driving force, and it is common to assert that emotions are primitive. But everyone has emotions. They are part of our nature, and no one remains uninfluenced by them. If we wish to formulate legal punishments on some other basis—as well we may—we need a better criterion than “not primitive.”

The struggle to find a better solution reflects an intuitive understanding that vengeance lacks the nuances that are necessary to deal with complex social issues. When the community or the state assumes responsibility for deciding legal punishments, the interests of the majority, most of whom are only indirectly affected by the crime, are not addressed by revenge. To be useful, retribution must consist of something more than the simple communalization of private revenge.

We suggest that the “something more” is precisely the calibrated urge to punish free-riding—“proportionate punishment,” as the traditionalists would say—discussed in this essay. This neo-retributionist view of punishment recognizes the difference between personal vengeance and social opprobrium. Punishment is not simply a social aggregate of vengeance or something enlightened societies should strive to avoid. On the contrary, it is the crux of social living. The very instincts that make us human—to survive and excel as individuals but in a social context that often requires us to empathize and care for others—obligate us to punish those whose selfishness is unacceptably antisocial.³⁵ Those same instincts obligate us to

³⁴ There is one obvious, and controversial, example of the risks of recidivism overwhelming considerations of proportionate punishment—habitual offender statutes. Regardless of one’s views about such statutes, it is clear that their central purpose is deterrence, not incapacitation. Sentencing a three-time shoplifter to life must be about deterring other shoplifters and not about incapacitating the shoplifter in question (since, of course, it will cost society much more to imprison such a person for life than to suffer the relatively minor social costs of a lifetime of continued shoplifting).

³⁵ In an empirical study, researchers found that college student subjects based their decisions about hypothetical punishments for intentional crimes on their perceptions of the seriousness of the wrong and the harm done, a calculus the researchers dubbed “moral outrage.” The subjects ignored the likelihood of a similar crime being detected and the likelihood of a repeat offence—factors

be judicious in the severity of the punishment we impose, to forgive transgressors after appropriate punishment, and to accept, and express our willingness to accept, our own proportionate punishment when we deserve it.

The most important insight evolution can give us about punishment is that it lies not at the heart of darkness but rather at the heart of what makes us civilized.

relevant to the goals of deterrence and incapacitation. Only when they were required to consider punishment in the abstract, uncoupled from the need to make a decision in a particular case, did they consider utilitarian factors such as deterrence. See Kevin M. Carlsmith, John M. Darley, & Paul H. Robinson, *Why Do We Punish? Deterrence and Just Deserts as Motives for Punishment*, 83 J. PERSONALITY & SOC. PSYCHOL. 284 (2002). These findings are consistent with our evolutionary argument. Moral outrage demands retribution, albeit scaled appropriately. If deterrence or incapacitation are byproducts, so much the better.