The Humane Principle and the Biology of Blame
(Evolutionary Origins of the Imperative to Inflict)

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"The instinct for retribution is part of the nature of man"
JUSTICE POTTER STEWART[1]

Every child learns that hurting people is wrong, but grown-ups think they know better. The lessons of adolescence are that some people "deserve" to be hurt, for reasons that are many—because of what they have done, because of what they are, for the good of society, to send a message, to defend honour, to alter behaviour, and for reasons more obscure. Even though most adults would probably say that hurting people is wrong, most would also insist on exceptions to the rule. People are, it seems, resiliently *selective* in their denunciations of hurtful acts and will doggedly insist, if pressed, that there sometimes is a moral right to cause serious human suffering. The most commonly voiced disagreement, indeed, is not *whether* hurting people is wrong but rather who "ought" to be hurt. Human suffering is not seen as truly an evil in itself but only an evil if not "deserved."

1. The Humane Principle and Just Deserts

Before going into my thesis, let me set out my agenda. There are two basic models that I see for dealing with evil acts: One is to counter the evil with evil in return (for example, "an eye for an eye"). The other model is to seek to minimize the harms that evil can produce, to neutralize evil without resorting to it. These two models are reflected in two competing moral principles: First, there is what might be called the Principle of Just Deserts—that people ought to get what they deserve. Then there is what one might called the Humane Principle, formulated more or less as follows:

> Any act to cause human suffering is wrong and must be avoided **unless** it is honestly meant as the most humane alternative that the situation presents, according equal concern to all who are affected.[2]

My agenda is to provide a compelling narrative in support of the Humane Principle, particularly as against the principle of Just Deserts. Basically, the question is this: Is purposely causing human beings to suffer ever an acceptable way to deal with social problems? Some believe it is. Others do not. Between these two positions there lies, in my view, the greatest of moral divides—the divide between those for whom human suffering can

be a good thing, and those for whom it cannot. Compared with this great moral divide, the many lesser disagreements on questions of right and wrong are pretty much a quibble.

There are, of course, many other moral divides as well. Indeed, those who see the infliction of human suffering as a legitimate social tool tend to make many moral distinctions—far too many. They end up quarrelling endlessly, often violently, over who does (and does not) morally "deserve" to suffer. Some talk of justice; others talk of peace. Some even claim the right to inflict in the name of human rights. Some assert they must cause hurt because people are in the way, blocking paths to progress, racial purity, or to grace. When it comes to the central moral point, however, they all are of a kind: They all agree that hurting people is an acceptable way to deal with conflicting interests. And this is what divides them all from those on the other side, those who deny it is ever right to add to human pain.

The idea that some people "deserve" to suffer has enormous social implications. One of the primary activities of modern government is to make sure transgressors get their "just deserts." The appetite for retribution is undeniably strong. Hollywood profits enormously as it caters to this taste, larding its fare with odious reprobates so we can cheer at their demise—preferably as painful and graphic as the filmmaker's art can make it. All this is good fun, no doubt, but real life is not so mellow. The taste for retribution inflicts much innocent suffering as well.

For one thing, the punitive measures of government justice rarely hit only their putative targets. On the contrary, "no man is an island" as the saying goes,[3] and there is often collateral damage—economic and emotional—to the prisoners' children, spouses and other family and to others who may be similarly dependent. Perhaps you do not care much about wrongdoers' families and dependents, but still you may care about the innocent victims—the men and women who are robbed, raped or even killed because, gripped by the credo of "just deserts," their government has diverted criminal-justice attention and resources away from measures more effective to cut recidivism and crime—techniques such as "restorative justice," community alternatives to incarceration, and efforts to head off criminogenic lifestyles in the first place. Retribution can deter, to be sure,[4] but deterrents are subject to diminishing returns and, after a certain point, the marginal effects of retributive measures may still leave many undeterred. America's prisons and jails hold 2 million people who evidently were *not* effectively deterred. This miserable population (highest per capita in the world), and the victims they tormented by their criminal acts, is eloquent testimony to the tapering marginal efficacy of our traditional modes of blame-and-deter justice.[5]

In sum, when a society obsesses on fixing blame and exacting punishment, there will likely be innocents who suffer but who might otherwise have been protected. Indeed, a reliance on blame-and-deter justice will inevitably leave many innocents to suffer unless, by some enormously lucky coincidence, giving transgressors what we feel they "deserve" also happens to be the most effective measure that can be deployed to head off harms in the first place. Actually there is evidence suggesting that infliction of suffering is, sometimes at least, not the most effective preventer of crime,[6] but there is surprisingly little hard research. This is particularly surprising, perhaps, when one considers the importance that people attach to personal security and the threats posed by crime. People are, however, strongly motivated to see bad guys get their due, and they tend to become impatient when the topic turns to preventatives, especially if prevention means letting somebody off easy who "deserves" to pay a price. Those who seem to care too deeply about the root causes of crime, restorative justice or cost-effective alternatives to traditional punishment run the risk of being seen as foolishly "soft on crime," lacking in moral resolve or, even, in latent sympathy with criminals. The predominant moral credo of "just deserts" disdains such concerns. The urge to blame and retribution are too compelling.[7]

2. Upward Moral Trajectory?

Like lot of people, I suppose, I have been drawn to the topic of this conference as a reaction to the problem of human suffering. Why does the suffering happen and, in particular, why does so much suffering happen at the hand of man? Can this human-generated suffering—"man's inhumanity to man"—be reduced? If so, how?

Despite famously appalling episodes in the last century, there is ground to believe that the human race has been, overall, on an essentially upward moral track during the past two or three thousand years, a generally upward trajectory of moral achievement in the ways we treat each other. This is obviously a somewhat debated point. Eruptions such as the Holocaust and Stalinist purges, not to mention many lesser 20th century horrors, do give considerable cause for doubt. Nevertheless, over the time span since, say, the composition of the *Odyssey*, one may observe that the circumstances in which it is generally considered legitimate to do destructive things to other people are shrinking, while the prevailing circle of humans deemed entitled to full human dignity and truly "inalienable" human rights grows ever larger. To take a concrete (and probably emblematic) example, consider the dramatic decline in the rate of death by homicide during the time span from hunter-gatherer times to the present, a decline that seems to be evidence that, over the eons, things are getting better.

In his book, *War Before Civilization*, Lawrence Keeley observes that "the proportion of war casualties in primitive societies almost always exceeds that suffered by even the most bellicose or war-torn modern states."[8] Based on the numbers he gives, this appears to be a considerable understatement. He points to archaeological evidence that the percentage of prehistoric people who died from "war" ranged from 5 to 40 percent, based on such indicators such as the numbers of skeletons found with arrowheads embedded in them.[9] During the last century, by contrast, "only" 100 million or so died from warfare. While this toll is a potent remainder that we still have plenty of room for improvement, the number of 20th-century war dead would have been, based on Keeley's estimates from prehistoric times, *twenty times* greater "if the world's population were still organized into bands, tribes and chiefdoms."[10] Homicide was pre-historically not merely a frequent cause of death, but it seems also to have been, compared with today, a fairly legitimate and even admirable thing to do. As Daly and Wilson point out in their study of homicide, "having killed [was] a decided social asset in many, if not most, pre-state societies" where, for example, "a young man might attain full adult status only by notching his first kill."[11]

War is not, of course, the only context in which homicides occur, and in the United States for past 100 years (and in Europe for more than 50 years) war has been a proportionately minor one. Even a relatively high-homicide country like the United States (with non-warfare homicide rates several times those currently prevailing in Europe), there are fewer than 20,000 domestic homicides per year, compared with roughly 2.3 million deaths overall.[12] This homicide percentage, less than 1%, contrasts sharply with Keeley's pre-historic 5-40% rate. In striking graphics, Keeley shows only twentieth-century Germany and Russia, and nineteenth-century France, as coming close to matching even the least homicidal of the pre-historic societies studied.[13]

While most episodes of violence do not result in homicide, comparative rates of homicide nevertheless should provide a rough proxy for comparative levels of violence generally. Proportionately fewer homicides should mean, if nothing else, that there are proportionately fewer occasions of high-intensity (potentially *lethal*) violence. Therefore, projecting from these numbers and from what we know about dispute resolution techniques in, say, the middle ages and earlier times, it seems justified to range the socially predominant views on legitimacy of violence as progressing through roughly the following stages:

1. Violence **considered generally legitimate** as method for resolving disputes.[14]

2. Violence **considered generally wrong**, justifiable only in response to violence[15]

3. Violence legitimate ***only if*** **the most humane alternative.**

4. Lethal violence or permanent maiming ***never*** **legitimate** as a solution/response to problems or conflicts. Lesser inflictions may be legitimate *if* most humane alternative.

On such a scale, modern western societies would be predominantly at stage 2, with major areas of daily life either in the process of moving to stage 3 or essentially already there. There are, to be sure, many people who still live very much at the stage 1 level (members of street gangs and certain tribal cultures, among others).[16] At the same time, however, over the longer term the proportion of circumstances is growing to which the moral level of stage 3 generally applies.[17] What this means, in practical terms, is that the mode of dispute resolution that may have been very effective within a medieval army or tavern, or in a modern street gang or prison,[18] would not work well at all in the corporate office or the country club.[19] While modern "genteel" people remain willing to apply ruthless violence against persons they perceive as "other" (people of different cultures, foreign political enemies, or criminals), the situation is entirely different when it comes to their own families, worksites, schools, social assemblages, religious congregations and the like—within their own *groups.* There, the deployment of violence is simply not accepted as a legitimate response to disputes or affronts. That is to say, within their own groups the deployment of violence to resolve social problems typically *just does not work.*

Morally, like technologically, a lot has happened in just the past couple of hundred years. Brutal acts, threats or stances that would have been acceptable or even praiseworthy 200 years ago, today have become matters of disgrace. It is essentially only in the past 200 years that slavery has been generally abolished, despotic regimes have ceased to be normal, and wiping out entire tribes and peoples has fallen out of favour as an accepted way to build a nation; more recently, racism has gone into disrepute, physical torture has become illegal, and punitive mutilations are now banned, almost everywhere; ideas and beliefs are no longer regarded as legitimate grounds for painful death. Even that old standby, domestic corporal discipline—husbands against wives, and (in some places) parents against children—seems to be on the way out. In more and more contexts, inflictions of suffering once generally accepted and normal have moved outside the acceptable range: in personal disagreements and feuds, in the workplace and in schools, against spouses, during police interrogations

and even, in certain respects, during war. It is not that people today have fewer conflicts than in the past. Indeed, as the earth becomes more crowded it is likely we have more. The difference is that, in more and more contexts, we have acquired self-restraint; we effectively deal with our conflicts in less injurious ways.

Indeed, one may observe that nowadays it is mainly only toward individuals *not* of our own groups that the lower-stage standards of moral treatment continue to apply. We still feel comparatively free to use violent means against people we regard as essentially different from ourselves—persons of alien cultures and races, as well as such pseudospeciates as the addicts and "criminals" among us (i.e., the "us" who see ourselves as, by essence, law-abiding). There is, however, ground for hope even in the fact of this differentiation: As invidious discrimination among persons and so-called races becomes less and less accepted, there is a continual widening of the circle of humans deemed entitled to possess full human dignity and to have truly "inalienable" rights.

Nothing says, of course, that this progression is a necessary one, or that it will necessarily continue into the future. I prefer, however, to take the more optimistic view that—with some conscious effort, at least—the moral trajectory of human civilization can continue. Along this trajectory, the next logical step is, it seems to me, to enlarge the circle of non-invidiousness, the circle of "fully human" and entitled to full human dignity and inalienable rights, to include literally everybody, even those we now think "ought" to suffer—to adopt a general principle that that intentionally adding to human suffering is wrong absolutely, without exception. This would entail embracing, in place of the old principle of "just deserts," the Humane Principle that is provisionally formulated above.

What the Humane Principle does first and foremost is to reject the legitimacy of *selective* condemnations of evil. One reason why this is important is that the selective condemnation of evil lends a kind moral cover for the doing of many harms. As George Orwell once wrote: "The nationalist not only does not disapprove of atrocities committed by his own side, but he has a remarkable capacity for not even hearing about them."[20] Orwell's comment need not, however have been limited to nationalists, for it applies to partisan discriminators of all sorts. A consciousness of the Humane Principle can, however, help to strip away this cover by its affirming, as a moral truth, that hurting people is wrong, always—not just hurting people like us, but hurting the "other" as well. It recognizes, too, that while coercive measures to prevent harmful behaviour will still be needed, gratuitous inflictions in the name of prevention, or suffering in the name of "justice," would not. And the burden of persuasion would be on those who would inflict.

3. The Barrier to Moral Progress

What blocks us from taking the moral step? What blocks us from saying that, as to every human being and circumstance, adding to human suffering is morally wrong, period. The thing that stands in the way most importantly is the still pervasive belief, deeply felt, that under some circumstances, at least, hurting people is morally *right.* The exceptions may grow ever fewer, but they remain nonetheless. The *selective* condemnation of inhumane behaviour is still the norm. The condemnation of hurtful acts as such is not.

Why is this? Why do we remain resiliently *selective* in our denunciations of acts to harm others, purporting to condemn evil while insistently retaining our little islands of hate from which we root mercilessly for the hand of moral reprisal to deal its crushing blows? Why do we cheer with such heartfelt fervour when, at the movies, the bad guys get their due, painfully trounced at the end of the film? Why do we persist in our pretense that the law's punishments exist primarily as deterrents when we know, in our heart-of-hearts, the elemental satisfactions of seeing awful things happen to hateful people? Certainly one reason is, pretty clearly, that the Humane Principle runs counter to deep human emotions of blame and retribution. These emotions go far to justify opinions of moral right and wrong. It is my central thesis that, until we unmask the biological sources and springs of the retributive urge, we will continue to draw erroneous moral conclusions from it; we will continue to draw erroneous moral conclusions from the emotions that we feel.

Knowing the biological causes of why we feel as we do will not, of course, likely stop the feeling—just as knowing the mechanisms of appetite will not make the overweight dieter yearn any less for sweets. But knowing can help overcome destructive emotions. We are already well aware that just because doing something feels good does not mean it is right. Hurting people and similarly destructive acts *can* feel good. However, as long as we regard our feelings as moral validations of conduct, as proof of moral right and wrong, the *selective* condemnation of evil will remain the norm. And evil will thrive.

In short, I think it crucially important to provide a new narrative for the retributive urge, not in terms of moral speculations, but in terms of human biological nature.[21] Why do people feel so powerfully the pull of retribution and the promise of "closure"? I believe that the evidence will soon show beyond a reasonable doubt, if it does not already, that there is a definite and very plausible physiological explanation for these ways that we respond. Our feelings of blame and the urge to retribution are simply biological adaptations.

By biological adaptation I mean any structural or behavioural feature of an organism that increases its chances of leaving progeny

surviving in later generations. The human propensity to affix blame and appetite for retribution are adaptations that evolved because they advanced the self-preservation interests of pre-human and early human individuals living in social competition with others. They worked to do so because the delivery of pain in retaliation can be an effective way to deter harmful behaviour. Individuals that possessed this "automatic" emotional prompt to deliver deterrents enjoyed an added measure of security from harmful acts of others and, therefore, they had a selective advantage that helped make them our ancestors instead of an evolutionary dead end. As these more successful individuals became our ancestors, their basic emotional inventory and dispositions became part of our modern psychological legacy.

Briefly, then, the biological narrative to account for our feelings of blame and urges to retribution would go something like this:

> *Blame is a mode of social control. Feelings of blame, the sense that people morally "deserve" to suffer when they do harm, arise as part of an automatic response mechanism in the human social repertoire. The social function of blame is to prompt the delivery of deterrents in response to harmful acts. Individuals living in largely cooperative but also competitive small-group social settings need such a response because, without it, they would be at essentially the mercy of the oppressive or exploitative behaviour of others. But the emotions of blame and retribution reflect only the contingent needs of individuals in particular social contexts, not deeper moral truths. Moreover, as a mode of social control, the psychological phenomenon of blame is a biological adaptation whose need has now passed. It is no longer necessary to treat others inhumanely as a mode of social control. Therefore, the time has come to move beyond the idea that inhumane treatment is an appropriate response to social problems and that feelings of blame are a morally appropriate guide to behaviour.*

4. Evolutionary psychology

Evolutionary psychology is a powerful tool for viewing the way that past environments influence the behaviour of people today.[22] Its basic premise is that individuals have a better chance of leaving progeny, descendents, if they behave in some ways rather than others. The kinds of behaviour that contribute to reproductive success are sometimes referred

to as "adaptive." There are many and complex ways that various behaviours can be adaptive.

To its basic insight that behaviour affects reproductive success, evolutionary psychology adds a second important premise. It assumes that certain behavioural tendencies or dispositions can be genetically "passed on" from one generation to the next. It assumes, in other words, that behaviour, including human behaviour, tends to be *genetically biased* in certain directions rather than others. Now it needs to be stressed that evolutionary psychology does *not* assume that human beings are subject to any kind of "genetic determinism." It does *not* assume that human behaviour is ever, in any significant respect, biologically "programmed." There is absolutely no evidence of that.[23] However, evolutionary psychology does assume that human beings and our predecessor species possess(ed) genetic behavioural *dispositions.*

What, (if not control by the genes) is a genetic behavioural disposition? A "genetic behavioural disposition" means simply:

> *Any statistically significant biasing of behavioural probabilities within a population such that, in given kinds of situations, individuals are more likely than randomly to exhibit some forms of behaviour rather than others, and that this statistical biasing of behavioural probabilities is highly correlated with genetic similarity.*[24]

Less formally, if individuals in a population tend to eat when hungry (low blood sugar), to drink when thirsty or, when frightened, to run, hide or puff themselves up, these are "behavioural dispositions." If there is a persistent population-wide or species-wide statistical bias towards certain behaviours in certain situations, then evolutionary psychology regards that as strong evidence that the disposition is at least partly genetic. This does not mean genetic programming, or anything of the kind, but a high correlation between genetic similarities and behavioural biasings does imply that there is some kind of genetic influence, at least an indirect one, on the behavioural choices that individuals make. However, one need not actually assume that any such genetic influence exists in order for the method of evolutionary psychology to work. All that is needed for the analysis to work is that there be (as there most obviously is) different behavioural biases among populations and species, and that these biases be highly correlated with genetic similarity.[25]

An evolutionary psychology narrative of the origins of the retributive urge might go like this: According to the evidence we have, our early human ancestors lived in small social bands of highly interdependent

individuals. It seems as well, though the evidence is only indirect, that life in these groups was a mix of not merely cooperative but also competitive behaviour. Cooperative behaviour (team efforts, direct and indirect reciprocity and "trust"[26]) would tend to enhance the survival prospects of group members. At the same time, an economic scarcity of resources or, merely, the possibility that individuals' goals and interests may from time to time conflict would virtually assure some degree of competitive behaviour.

Individuals that live in socially competitive settings cannot be behaviourally indifferent to the overreaching and aggressions of others. To be indifferent would be to put oneself at others' mercy, a competitive disadvantage that might be fatal and would, at very least, reduce the chances of producing viable descendents. Therefore, individuals that live in socially competitive settings are practically required (in the absence of "police") to have predispositions to detect and retaliate against others' coercive or exploitative actions that would, if allowed, work directly contrary to the individual's own survival interest.[27]

While our pre- and early human ancestors almost certainly needed, for survival, to live in social groups, to cooperate to a degree with others, and to stand up for their own interests, it hardly seems likely that could have *reasoned* this out for themselves. It is not even likely, indeed, that their intellect and reason would have sufficed to impel them to meet even such elemental needs as nutrition and water. There had to be innate motivators to action, *appetites,* to prompt them to do what they must. Though these appetites need not have been (and almost certainly were not) innate instructions as to *how* to meet survival needs, they served as unignorable goads to action and monitors of satisfaction, impelling the search for solutions and signalling success. Thus, we might suppose that, in order to cue adaptive behaviour, ancestral individuals were innately endowed with appetites for the society of others (an affinity for bonding and abhorrence of isolation) that were as real and as strong as those of people today.[28] It seems hardly likely that our pre- and early human ancestors would ever have survived, much less produced descendents, if they did not have such appetites and, instead, had to rely for behavioural choices on their powers of reasoning and intellect.

An "appetite" for the society of others is not, of course, the only non-rational (innate) disposition that would have proven useful and adaptive for our pre- end early human ancestors. It may also be plausibly postulated that, in order to fortify the groups on which all depended for survival, individuals, also need to have a general disposition to act cooperatively, such as by participation in teamwork, engaging in indirect reciprocity and forbearance towards other group members' overreachings and vulnerabilities.[29] While cooperative behavioural dispositions may lend

a selective advantage for group members as a whole, however, for any given individual it would often be possible to gain a certain edge by "cheating" here and there a little, getting a little extra, beyond what would otherwise be his or her share. (By "cheating" I mean broadly here any form of deceit or coercion used in an effort to obtain a non-reciprocated advantage from another.) Individuals alert for opportunities to "cheat" and get away with it would have a greater reproductive fitness and would, therefore, have tended to have above-average representation in the gene pool of the subsequent generations. Over time, as such individuals reaped the reproductive advantages, their offspring could come to outnumber the progeny of those that did not, and the behavioural disposition to detect and exploit apparent opportunities to "cheat" would spread ever more widely, until, eventually, it would become a species characteristic—as it apparently has.

Cheating is, however, parasitic, and if individuals could pursue cheating without checks, the result might so upset the balance of resource distribution as even to threaten the integrity of the social group itself—the very group on which the cheaters depend for their own survival and reproduction. Without checks, in other words, cheating could jeopardize even the cheaters. Accordingly, to be reproductively successful in our ancestral past—to be our ancestors—individuals almost certainly had to live in groups where most members were disposed to be highly alert to detect and react against their fellows' attempts to cheat.[30] Those pre-human groups whose members reacted against cheating would be, on the whole, the groups whose members' descendents would be best represented in future generations. It would be the members of *these* groups, in other words, that would have been our own ancestors. At any rate, "[a]cross cultures, humans are strongly predisposed to assess the behaviour of others as 'just' or 'unjust' and to respond with anger when the behaviour of others is perceived as unjust."[31] And it is from these individuals' needs for successful cooperative-*cum*-competitive social life, and their evolved behavioural response to such needs, that our modern innate sense that offenders deserve to suffer most likely comes.[32]

In short, the modern appetite for retribution and making offenders "pay" for their transgressions is highly analogous to the more commonly recognized appetites—for food, for drink, for sleep, and the satisfactions of other sensually expressed needs. Just as the appetite for food, as it evolved, served the survival needs of our ancestors well, so also did their appetite for retaliation and making offenders pay. Today, the prompt to deliver deterrents against others' overreaching, aggressive or threatening acts is experienced by us as emotion—the feelings of blame and urges to retribution that are familiar and, seemingly, inevitable parts of the human psychological make-up. Such emotions did not and do not "determine"

behaviour, but they can be very important components of the complex of causes that does determine our individual actions. In doing so they once served to give individuals survival and reproductive advantages, and sometimes still do—advantages that logic and reason can demonstrate today but, for our pre-human and early human ancestors, logic and reason could not engender.

5. The Limited but Crucial Role of Biology

It is easy to overrate the relevance of biology to questions of human behaviour. Biology does not "determine" specific behaviour and it certainly does not validate "bad" behaviour. The biological basis of humankind, of human nature, is nevertheless of the utmost importance to moral questions. Knowing our biological nature as we seek moral direction is like knowing about a nearby iron deposit when finding one's way with a compass. If you ignore it, you will surely risk going astray.

At our foundation, we exist as biological creatures, and many (if not all) specifics of human psychology have a definite physiological base. Our human intellect and reason may help interpret, respond to, and even govern our appetites, but human intellect is certainly not the *source* of human appetites. The feelings and emotions that emerge in our mental experience are no more the creations of human intellect than the biles that emerge in the gut. No human mind invented feelings of hunger, thirst, or sexual libido. And no human mind invented the urge to retribution. The capacity to generate these feelings and emotions is part of the innate psychological repertoire that evolved in ancestral humans and is a legacy from them.

The very presence of our emotions, however, sometimes makes intellectual discussions of them difficult, especially when the very nature of the discussions tends to arouse the emotions themselves. As discussants contemplate examples of the kinds of situations to which such emotions may apply, that very contemplation may trigger an upwelling of the emotions themselves. When the presence of the emotions is combined with the suggestion that giving them credit is to be deprecated, the overall effect is magnified.

The capacity to feel the retributive urge and propensity to blame evolved, no doubt, because of the survival advantages it provided at the time. Under modern conditions, however, what once was a survival advantage might become a detriment or, even, downright evil. In a time of modern abundance and ease of nutrition, our Paleolithic appetites and preferences for food (a affinity to sweets and plenty of fats) is not so well suited to the preservation of health and, on the contrary, contributes to diseases that are now a primary cause of death. So is similarly our

Paleolithic appetite for blaming and retribution. Having served its need, it may have become morally obsolete now that we have available abundant other ways, more effective ways, to address our need to minimize crime.

Since all questions of right and wrong turn in part, at least, on the "facts," a case might be made that, in earlier times and circumstances (say, Homeric Greece), the behaviour prompted by emotions of blame and retribution was not even morally wrong. However this may be, though, the social and environmental conditions that gave rise to blame and resultant notions of "justice" have long ceased to apply. Innate feelings of blame are no longer a socially adaptive or morally defensible guide to social behaviour. They are no longer socially adaptive because we live today in a world of largely urban societies with mostly anonymous members who govern themselves by laws rather than, as in ancestral times, by permanent inter-personal relationships. They are not morally defensible because we now have the analytical tools to show that the paradigm of "free" choice on which blame is based simply cannot be sustained.[33] The inhumane treatment of others as a mode of social control is a biological adaptation whose time has passed. Yet, the moral miscues that this evolutionary legacy provides are persistent, resilient, and difficult to overcome.

Evolutionary dispositions to behaviour are not, fortunately, ineluctable destiny. We can overcome obsolescent "biological" urges—be they to over-eat, to over-reproduce or to over-retaliate in response to conflicts and affronts. The hope is that, by understanding the biological basis of the moral miscues that make people *want* to hurt others, we can then become free to continue the historic moral advance of humankind.

Notes

[1] Furman v. Georgia, 408 U.S. 308 (1972) (Stewart, J., concurring).

[2] Note that to "cause" suffering refers here to actions whereby an agent adds to the total amount of overall suffering, *i.e.,* to generate suffering, and not to inflictions (such as inoculations and dental procedures) that have the effect of reducing total suffering. When actions cause a person to suffer as an inseparable part of diminishing hurt to another (*e.g.,* steering a runaway truck into a lone bystander instead of into a crowd, or wrenching a loaded gun from a homicidal madman, or from a baby), they can be viewed, in effect, as a "deflection" of suffering to the one from the other. While such actions are properly regarded as causal in *directing* the suffering to its eventual recipient, they are not regarded, for purposes of the Humane Principle, as a "cause" of human suffering itself. The Humane Principle explicitly recognizes a moral warrant for actions meant to reduce total

suffering even when, in the process of doing so, the action "deflects" the impact of some event-in-progress from one person to another.

[3] Donne, 1987/1624, 126.

[4] In simple contexts, indeed, it has been shown experimentally that the most successful (adaptive) strategy for dealing with others is "tit-for-tat," rewarding obliging behaviour and seeking to punish hostile behaviour. See Axelrod, 1984. It "neither provokes suicidal escalating feuds nor advertises weakness which would invite exploitation" (Daly and Wilson, 1988, 235). What is adaptive or even indispensable in simple contexts may, however, be not at all necessary or, even, adaptive in other, more complex social contexts.

[5] There are, no doubt, diverse psychological factors that undermine the efficacy of blame-and-deter justice, for example, the fact that some people lack normal perceptions of their own self-interest, labouring under unusually (and unrealistically) short time horizons, overweighing the near future, underrating the risks and personal costs of detection, etc. See Daly and Wilson, 1988, 164-68. In a similar vein, the law's moral or "heuristic" suasion is weakened when persons lack normal perceptions of others' interests (failure to "identify"), which logically leads to an impaired ability to predict (or comprehend) being blamed for various acts. Note that this lack of normal perceptions of others' interests is not necessarily pathological, in any sense, but may be a cultural artefact, as when bombardiers take great umbrage at those who regard the bombing of cities as matter for reproach.

This is not, of course, to say that deterrent effects do not exist, but only to argue that those persons who enjoy normal perceptions of their own and others' interests may tend to overrate the deterrent effects of threats directed towards those who do not. On the efficacy of deterrence, one recent study has concluded, for example, that "[e]ach additional execution decreases homicides by 5 to 6, while three additional pardons generate one to 1.5 additional homicides" (Mocan and Giddings, 2001). However, executions and pardons are not the only alternatives, of course, and the deterrent effects of various intermediate interventions is the crucial issue to be considered—if minimization of human suffering is a considered to be a high priority goal.

[6] See, e.g., The Justice Education Center for the Connecticut Judicial Branch and Department of Correction, 1996; Sherman *et al*., 1997; Wagner and Baird, 1993. See also Currie, 1998.

[7] There is, to be sure, evidence that people are willing to pay substantial amounts to prevent crime: According to one recent study, "typical households" would be willing to pay between $100 and $150 per year for crime control programs that reduced specific crimes by 10% in their communities—amounting in aggregate to "a marginal willingness-to-pay

to reduce crime of about $31,000 per burglary, $75,000 per serious assault, $253,000 per armed robbery, $275,000 per rape and sexual assault, and $9.9 million per murder." Cohen, Rust, *et al*. (2001). The authors of this study assert that these results, which are "between two and ten times higher than prior estimates of the cost of crime to victims," more fully represent the true cost of crime to society.

There is, on the other hand, "[e]xperimental research [showing] that moral indignation, understood as a willingness to suffer in order to punish unfair treatment by others, is widespread" (Ullmann-Margalit and Sunstein, 2002).

[8] Keeley, 1996, 88.

[9] Keeley, 1996, 88-94. See also id. at 36-37.

[10] Keeley, 1996, 93 (emphasis in original). The 100 million figure for twentieth-century war deaths is regarded by Keeley as a high estimate. Id.

[11] Daly and Wilson, 1988, 128 & 129. See also Alexander 1987, 79, making the point that "human evolution has been guided to some large extent by intergroup competition and aggression." That is to say, an innate disposition to resort to violence under circumstances of external threat would have practically been a survival necessity. See also Keeley, 1996, 174 ("Peaceful pre-state societies were very rare").

[12] Murphy, 2000.

[13] Keeley, 1996, 89-90.

[14] Daly and Wilson, 1988, 128, 129.

[15] This stage effectively amounts to a ban on *escalations to* violence in disputes. But cf. modern nations' efforts to inflict suffering on recreational drug users.

[16] "Within certain reference groups violence is frequent, and the display of one's capacity for violence is admired or even obligatory," note Daly and Wilson. Further, "other groups within the same large society condemn violence, and their members rarely resort to it" (Daly and Wilson, 1988, 286-87).

While there is the temptation to offer a "cultural" explanation of why there is more violence in some groups than in others, Daly and Wilson express doubt. They point out that behavioural patterns may the source of cultural values rather than the result of them. Id. at 287. That is to say, the behavioural patterns of a "subculture" within the prevailing culture may result from exogenous sources, such as particular socio-economic pressures on the subculture's members, with their local culture then being adapted to meet those exogenous pressures.

[17] See discussion in following two paragraphs.

[18] Striving for and maintaining status (or "honour") is also an important part of it. See Daly and Wilson, 1988, 126-31. In pre-state societies, such reputational attributions can be of tremendous survival value for both

individuals and groups-among-group, both by deterring potential aggressors and containing potentially disastrous aggression against dangerous adversaries. See also id. at 221-38.

[19] But cf. "In most social milieus, a man's reputation depends in part upon the maintenance of a credible threat of violence" (Daly & Wilson, 1988, 128).

[20] Orwell, 1945.

[21] Although I use the term narrative, it should not be understood to mean anything less than a description of what is real, as best we can approach it. Anyone who believes that science does more than this, does more than provide satisfyingly plausible "narratives" based on carefully observed coherencies of data, is almost assuredly mistaken. *See* Kuhn, 1970; Jeans, 1943.

[22] See Alexander 1987, 23.

[23] See Alexander 1987, 21-30.

[24] Notice that there is no assertion about genetic "causation" or control in this definition, only about genetic correlation. Inferences about causation can be left entirely to interpretation and are not foundational to the analysis. Notice, too, that the determinism that this definition implies is the very loose "quantum" determinism of statistical probabilities, and not the either/or determinism of classical mechanics. In fact, such statistical correlations between genetic profile and behaviour are all that is required to exist in order for an "objective" evolutionary psychology analysis to work. And their existence is, at least in principle, amenable to empirical confirmation.

[25] It may possible for the main strategies of evolutionary psychology to work even *without* the assumption of direct genetic transmission of behavioural traits. Essentially, the argument would go, the genetic transmission of various *structural* traits indirectly predisposes the individuals so structured to some behaviours rather than others.

[26] "Trust" here refers not to a conscious mental state of faith in another, but simply to the behaviour of omitting precautions (*viz.* of not being prompted to precautionary behaviours) and thus offering a theoretical vulnerability to another individual that the other is, from all appearances, in a physical (if not dispositional) position to take advantage.

[27] See generally Daly and Wilson, 1988, 230-31.

[28] An absence of the interhuman inputs and feedback of social interchange with others—that is, unsought isolation and loneliness—tends to be experienced as unpleasant, inducing stress, having impacts on hormone/neurotransmitter balances and even affecting neuronal development. See, e.g., Sapolsky, 1996. For a relatively early judicial recognition, in the context of solitary imprisonment, see In re Medley, 134 U.S. 160, 167-68 (1890).

[29] People are unlike, say, tigers, which have no evident innate disposition to live cooperatively with other tigers or any observed tendency to do so.
[30] There is evidence of such retaliative urges, to the point, practically, of "law and order" and even a chieftain-like form of "government" among modern subhuman species such as troops of chimpanzees. And, as Holmes noted, even a dog knows the difference between being tripped over and being kicked.
[31] McGuire, 1994.
[32] See generally Fehr and Gächter 2002. *Also see* Cosmides and Tooby, 1992, 193. Note: the same behavioural evolution may have occurred purely as a cultural matter, without any genetic support, in the form of innate dispositions or urgings whatever. As such cultural patterns continue to be handed down by the processes of learning from generation to generation, the results would be essentially the same as would occur on the "innate" hypothesis. Thus, nothing in this argument really depends on the correctness of the innate hypothesis.
[33] That is, as a matter of evolutionary theory, free choice (or "free will") could not have evolved and, therefore, ascribing blame for "bad" choice is morally inapt. This is, however, a subject for another paper.

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