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RETRIBUTION AND RELATED CONCEPTS OF PUNISHMENT

RICHARD A. POSNER*

I. INTRODUCTION

My purpose in this paper is to examine several related concepts of punishment from the standpoint of economics. The retributive concept has been defined by John Rawls as follows:

What we may call the retributive view is that punishment is justified on the grounds that wrongdoing merits punishment. It is morally fitting that a person who does wrong should suffer in proportion to his guilt, and the severity of the appropriate punishment depends on the depravity of his act. The state of affairs where a wrongdoer suffers punishment is morally better than the state of affairs where he does not; and it is better irrespective of any of the consequences of punishing him.¹

The retributive view has a long history in law and philosophy. It is found in the *lex talionis* of early Roman law, the "eye for an eye" precept in the Old Testament (and a virtually identical precept in the Koran), and in many other early codes, and counts among its distinguished philosophical exponents Immanuel Kant.²

* Lee and Brena Freeman Professor of Law, University of Chicago. The support of the Center for the Study of the Economy and the State at the University of Chicago is gratefully acknowledged, as are the comments of Gary Becker, William Landes, and George Stigler on a previous draft and the research assistance of Robert Bourgeois and Helene Serota.

¹ Two Concepts of Rules, 1 *Philosophical Rev.* 3, 4-5 (1955). For a similar definition see A. C. Ewing, *The Morality of Punishment* 13 (1929); and for other discussions of the meaning and ethical basis of the retributive theory, by both supporters and opponents, see K. C. Armstrong, *The Retributivist Hits Back*, 70 *Mind* 471 (n.s. 1961); Max Atkinson, *Justified and Deserved Punishments*, 78 *Mind* 354, 355 (n.s. 1969); Sidney Glendon, *A Plausible Theory of Retribution*, 5 *J. Value Inquiry* 1 (1970); H. L. A. Hart, *Punishment and Responsibility* 230-37 (1968); Donald Clark Hodges, *Punishment*, 18 *Philosophy & Phenomenological Research* 209 (1957-1959); John Kleinig, *Punishment and Desert* (1973); John Laird, *The Justification of Punishment*, 41 *The Monist* 352 (1931); Herbert Morris, *Persons and Punishment*, 52 *id.* 475 (1968); C. W. K. Mundle, *Punishment and Desert*, 4 *Philosophical Q.* 216, 221 (1954); Lisa H. Perkins, *Suggestion for a Theory of Punishment*, 81 *Ethics* 55 (1970); John Plamenatz, *Responsibility, Blame, and Punishment*, in *Philosophy, Politics & Society* 173 (Peter Laslett & W. C. Runciman eds.) (3d ser. 1967). For an especially spirited defense of the retributive approach see C. S. Lewis, *The Humanitarian Theory of Punishment*, in *Theories of Punishment* 301 (Stanley E. Grupp ed. 1971).

² Kant's views on retribution are discussed in Hodges, *supra* note 1. The literature describing the actual retributory practices of primitive and early societies is very extensive. Some examples

The concept of punishment as retaliation or revenge is similar to the retributive concept in treating punishment as a form of recompense paid by the criminal, but differs in viewing punishment from the standpoint of the victim. While retribution focuses on the criminal's wrong, retaliation focuses on the impulse of the victim (or of those who sympathize with him) to strike back at the criminal.

Another concept I shall discuss, one more familiar to classicists and anthropologists than to lawyers and philosophers, is "pollution," which as used here refers to the belief that punishment is visited through supernatural agency on the neighbors or descendants of the criminal when he himself manages to escape punishment. Although some retributivists have argued (as we shall see) that a proper concept of retribution precludes the imposition of liability on anyone but the criminal, concepts of retribution and pollution are frequently found conjoined. The Old Testament, for example, states both that the criminal shall repay an eye for an eye and a tooth for a tooth and that the sins of the father shall be visited upon the sons.

The belief that murders and other crimes pollute the murderer's neighbors and descendants, like belief in retribution and revenge, was widespread in primitive and early societies (such as fifth-century Athens) but is unfashionable in modern thought. This paper is not an attempt to rehabilitate these beliefs. An essay in positive theory, it addresses the question, in what circumstances are retribution, retaliation, and pollution socially functional? My analytical tools are mainly economic, with some help from biology.

The appropriateness of applying economics to these concepts of punishment is sufficiently nonobvious to merit consideration at the outset. It may seem that ethical notions regarding punishment, especially the ethical notions prevalent in primitive and early societies, are too remote from the normal subject matter of economics—explicit markets in advanced societies—to lend themselves to economic analysis. Recent work in the economics of crime, morals, and primitive society suggests, however, that primitive notions of culpability and punishment are proper subjects for economic study.³ More generally, while some economists, and many other

are Paul Bohannon, *Law and Warfare* (1967), *passim*; David Daube, *Studies in Biblical Law*, ch. III (1969); E. Adamson Hoebel, *The Law of Primitive Man* (1954), *passim*.

³ On crime, see Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 *J. Pol. Econ.* 169 (1968); on morals, *Altruism, Morality, and Economic Theory* (Edmund S. Phelps ed. 1975), and Richard B. McKenzie, *The Economic Dimensions of Ethical Behavior*, 87 *Ethics* 208 (1977); on primitive society, Richard A. Posner, *A Theory of Primitive Society*, with Special Reference to Law (March 1979) (Working Paper No. 007, Center for the Study of the Economy and the State, Univ. of Chicago) (forthcoming in *J. Law & Econ.*, April 1980). I am aware of no economic studies of pollution, and only one of retribution: Donald Wittman, *Punishment as Retribution*, 4 *Theory & Decision* 209 (1974). Wittman's endeavor is to show that important features of our contemporary criminal justice system, such as the tendency to match the severity of the punishment to the gravity of the crime, are best explained as reflecting the persistence of the retributive view. As for retaliation, there is, as we shall see, some discussion in the economic literature of its role in discouraging opportunistic behavior.

students of social behavior, believe that the only proper study of economics is explicit markets (plus, perhaps, the legal, ethical, and other constraints on market activity)⁴, my own view is that the proper domain of economics includes *all* of its fruitful applications—economics cannot be defined in accordance with some preconceived idea of what “economic” institutions are.⁵ The term “economics” is derived from the Greek *ta oikonomika* and originally meant household management (from the Greek *oikos*, household), yet no one objects that economists early broadened the scope of their subject to include markets as well as households. No one should object if today economists are broadening the subject still further—and especially since the particular extension in issue here, the application of economics to punishment, was first made by Jeremy Bentham almost 200 years ago⁶ (and indeed even earlier, by Caesar Beccaria). The economic study of punishment is almost as old as (modern) economics itself.

A more serious objection to taking an economic approach to retribution and related concepts is that retribution is (one might think) totally devoid of an economic rationale. The economic function of punishment is to make criminals internalize the social costs of their activities. This is done by imposing a fine (or, if the criminal is insolvent, by inflicting an equivalent non-monetary penalty—a complication that needn't concern us here) such that the expected punishment cost of the crime to the criminal is equal to the social cost of the crime. The fine itself, however, need not be equal to that social cost. As Bentham pointed out, if the probability that the fine will be imposed is less than one, the fine must be greater than the social cost of the crime in order to make the *expected* punishment cost equal to that social cost.⁷ More precisely, if attitude toward risk and certain other complications that are irrelevant here are ignored, efficiency requires that $C = f \cdot p$, where C is the social cost of the crime, p (< 1) is the probability that punishment will be imposed on the criminal, and f is the fine, so that $f \cdot p$ is the expected cost of punishment, to the criminal, of committing the crime. For crimes of given social cost, as p gets smaller and smaller, f must be raised to compensate for the reduction in the expected cost of punishment. The result is a wedge—anathema to retributivists, who believe the punishment should be equal or proportional to the gravity of the crime—between f and C , between,

⁴ See, e.g., Ronald H. Coase, *Economics and Contiguous Disciplines*, 7 *J. Legal Stud.* 201 (1978). Since, as we shall see, retaliation may sometimes operate as a constraint on market activity, even economists who take a narrow view of the proper scope of economics might include retaliation within that scope.

⁵ See Gary S. Becker, *Introduction*, in *The Economic Approach to Human Behavior* 3 (1976); Reuven Brenner, *Economics—An Imperialist Science?*, 9 *J. Legal Stud.* 179 (1980).

⁶ See Jeremy Bentham, *An Introduction to the Principles of Morals and Legislation* (1789, corrected ed. 1823).

⁷ See Jeremy Bentham, *An Introduction to the Principles of Morals and Legislation* 183-84 (Laurence J. Lafleur intro., reprint of 1823 ed., 1948).

that is, the punishment and the crime. Furthermore, under certain assumptions, optimal criminal punishment requires setting p arbitrarily close to zero and f arbitrarily close to infinity.⁸ If this is done, the wedge between the severity of the punishment and the gravity of the crime approaches infinity.

An even more fundamental economic objection to a retributive rationale for punishment arises from the fact that, once a crime has been committed, the costs that it has imposed on society become sunk costs, which cannot be retrieved by punishing the criminal or, for that matter, by doing anything else. The economic rationale of punishment is not that it undoes the bad effects of the crime but that, by placing a price on crime, it affects people's incentives to engage in criminal activity in the future. The economic rationale for punishment thus resembles, although it is not identical to, the "deterrent" theory of criminal punishment held by many lawyers and criminologists.⁹ It is not identical because the economist's objective is not to deter crime as such, which would imply reducing its incidence to zero, but simply to assure that any prospective criminal internalizes the full social costs of his activity. It is because of this difference that deterrence theorists have difficulty explaining why attempts should not be punished as severely as completed crimes,¹⁰ and economic theorists why attempts should be punished at all.¹¹ But the differences between theorists of deterrence and economic analysts of crime seem as nothing compared to the differences between both groups on the one hand and retributivists on the other. The latter have no interest in the effect of punishment on the incentives of people to commit crimes. (This means, incidentally, that the retributivist is never embarrassed, as the deterrent theorist sometimes is, by the possibility that punishing an innocent person might be an effective method of deterring criminal activity;¹² that effect has no weight in a retributive justification for punishment.)

One could try to reconcile retributivism with economics by invoking the concept of interdependent utilities. If the victim of crime derives satisfaction from the criminal's disutility of punishment, that satisfaction provides a reason independent of any pricing or deterrent considerations for punishment. Bentham thought this justification must fail because (he believed) the pain of punishment to the criminal was greater than the pleasure to the victim (or his family) of seeing the criminal punished.¹³ Even if Bentham's

⁸ See Becker, *supra* note 3, at 183.

⁹ For a good presentation of the theory by a lawyer-philosopher see H. L. A. Hart, *supra* note 1.

¹⁰ See *id.* at 130.

¹¹ See Richard A. Posner, *Economic Analysis of Law* 172-73 (2d ed. 1977).

¹² Compare Hart, *supra* note 1, at 18-21, with Wittman, *supra* note 3, at 221-25, 234.

¹³ See Bentham, *supra* note 7, at 170-71 n.1.

intuition in this regard is correct, it is not a conclusive refutation of the utility argument. Bentham neglected the satisfactions that people other than the victim, his family, or his friends might derive from seeing an offender punished. Individually those satisfactions might be small but their sum could exceed the pain to the criminal (and to *his* family, friends, and sympathizers).

The deeper flaw in Bentham's approach, a flaw it shares with most efforts to explain human behavior by reference to tastes or preferences, is that to "explain" retribution by an assumed taste for it is simply to invite the question where the taste comes from. An alternative approach is to treat the "taste" for retribution as an instrumental value. Economics has little to say about ultimate ends but much to say about the instruments that rational creatures use to attain their ends in a world of limited resources. Accordingly, this paper will ask whether there is a possible social function of retribution other than that of satisfying a taste for retribution, and will answer that retribution is an important component of a system of private law enforcement but has only a small role to play in a system of public enforcement. Hence, as public enforcement has become increasingly important in criminal and other areas of law, retribution as a rationale for punishment has withered to its present unfashionable state. In areas where private enforcement remains important, so does retribution and even revenge—though we use a different vocabulary in these areas, perhaps precisely because retribution and revenge have become (deservedly) unpopular in other areas. The paper will also discuss the conditions in which a form of pollution—the Greek *miasma*—is functional, conditions that again no longer exist in our society. In discussing this curious but once functional superstition I shall be led finally to some general reflections concerning the divorce between guilt and responsibility in primitive and early law and morality.

II. THE SOCIAL FUNCTION OF RETRIBUTION

To understand the importance of retribution in primitive and early social thought, it is first necessary to understand the problem of internal order, "crime control" in a loose sense, in primitive and early societies.¹⁴ Those societies have the same basic need as modern ones for methods of internalizing costs and benefits. A society whose people lack incentives to produce or invest because they cannot (at least without incurring tremendous costs in self-protection) appropriate the fruits of their labors is unlikely to survive in competition with societies that discover and adopt methods of imparting such incentives—and some will. Since, however, the internalizing institu-

¹⁴ The discussion of private law enforcement in primitive societies that follows is based on Posner, *supra* note 3.

tions even of the minimal "nightwatchman" state are commonly lacking in primitive societies, the devices familiar to us by which minimal order is maintained will often be unavailable to those societies. They may have no officials to take action against murder, theft, and other coercive acts—no police, judges, prosecutors, or jailers. Yet primitive and early societies do have norms against murder, theft, and other unjustified uses of force, and the question is the mechanism for enforcing these norms in the absence of a formal state apparatus of criminal law enforcement.

The answer is the possibility of retaliation by victim against aggressor. This is the means by which international order is maintained today, not perfectly to be sure but on the whole effectively.¹⁵ Where the threat of retaliation is the only basis of order among individuals within a society, rather than among societies, the critical question is retaliation *by whom*. If only the immediate victim of a wrong will retaliate against the wrongdoer, the effectiveness of the threat to retaliate as a deterrent to wrongdoing will be limited largely to (1) minor wrongs (major ones will impair, or in the case of murder destroy, the victim's ability to retaliate) done to individuals (2) who are at least as strong as the prospective wrongdoers. Most primitive societies try to overcome these limitations by making retaliation a *family* obligation.¹⁶ Then, even if the victim is killed or disabled, there will be someone to retaliate for the wrong. Moreover, depending on the size of the family and whether the obligation to retaliate extends to remote relatives, there will be more than one person, perhaps many more, to undertake retaliation, and this will make the relative strength of victim and aggressor less important. To be sure, families are not of equal size, wealth, or power; but there are reasons for believing that the retaliatory capability of families will be more nearly equal, in the circumstances of primitive society, than that of individual contestants.¹⁷

While one can thus see why primitive societies, in the absence of alternative methods of peacekeeping, might be well served by retaliation, we have still to explain the incentive or motivation of the individual or of a member of his family to retaliate for a wrong done to him. Conscious pursuit of deterrence is one motivation. The victim and his family could be a target of future wrongdoing, and the vigor with which they avenge the present wrong may determine the likelihood of their becoming such a target. In fact, one reason why vengeance is a family obligation in primitive societies may be

¹⁵ On the similarities between the problems of public order in the international arena and in primitive societies see Michael Barkun, *Law without Sanctions* (1968).

¹⁶ By personifying primitive society in this way, I am, of course, evading the question of the mechanism by which such a society creates institutions. For discussion of this question see Posner, *supra* note 3, at 44-46, 78-79.

¹⁷ See *id.* at 30, 65; Barkun, *supra* note 15, at 23.

precisely to involve in the enforcement process an entity with a sufficiently long future to have a substantial interest in deterrence.

In some cases, however, deterrence might not supply a sufficient motivation for a rationally calculating individual to incur the costs of retaliation. An example would be where the conditions of information were such that the vigor of the victim's (or his family's) retaliation would not become known to prospective wrongdoers. To be sure, there might still be a motivation to retaliate, though not a deterrent motivation: retaliation might involve getting something of value from the wrongdoer, and if so it would yield a private benefit separate from deterring future wrongs. Often the customs of a primitive society prescribe pecuniary or equivalent compensation for wrongs (including for criminal offenses such as murder), much as in modern tort law; and probably an important reason for such customs, or for their survival, is their effect in motivating people to retaliate and hence in enhancing the credibility of the threat to retaliate and with it public order. But the feasibility of a compensation scheme depends on the possession of wealth by the wrongdoer—or by his family or village, if a principle of collective responsibility is followed¹⁸—commensurate with the gravity of the wrong; and throughout most of human history people probably lacked sufficient wealth, at least in transferable form, for hope of compensation to motivate a victim or his family to incur the costs of retaliating against an aggressor.

A more important example where conscious or calculating concern with deterrence will not motivate revenge is where the costs of taking revenge are less than the benefits in reducing the expected cost of future aggression against the individual who must decide whether to seek revenge, or against his family. The aggressor might be well protected, so that the avenger would have to incur great risk and other costs to injure him. Or the aggression might have so impoverished the victim and his family as to reduce to negligible levels the value to them of deterring future aggression (there is nothing more to steal from them).

In cases where the only benefit from retaliation is deterrence, and that benefit is less than the cost, one might think that retaliation would be an irrational act from the individual's standpoint. Yet it might not be irrational for the individual to have *ex ante*, and be known to have (perhaps from gestures or bearing that express his temperament), an unshakable *policy* of retaliation, a policy that is not reexamined or changed each time he suffers some aggression. Knowledge that a victim will retaliate when attacked without making a fresh cost-benefit analysis of retaliation will deter aggression more effectively than knowledge that the victim will respond "rationally" to each act of aggression by weighing the costs and benefits of retaliation as they then appear. To be sure, the policy yields greater costs as

¹⁸ On collective responsibility see further p. 84 *infra*.

well as greater benefits, for if an aggressive act does occur retaliation will be pursued regardless of risks and other costs. But the gains of the policy may exceed the losses, *ex ante*.

The great problem with such a policy is credibility. The individual must somehow bind himself in advance not to yield to the temptation to behave opportunistically when attacked (by weighing the costs and benefits of retaliation as they then appear). The problem of commitment has been discussed in other contexts,¹⁹ but the commonest methods of commitment (e.g., a legally enforceable promise) are not available in the setting of a primitive society. Two methods of commitment may be available in that setting. One is genetic. If an unshakable policy of retaliation would increase the fitness of the individual who adhered to such a policy, then psychological traits that guaranteed retaliation regardless of the benefit-cost ratio at the time the aggressive act took place—that put the victim in a towering rage precluding cool calculation—could evolve through natural selection. The second method of commitment is cultural—according social approval to the “man of honor,” the man ready to retaliate against the slightest affront. As one would expect, this cultural characteristic is more pronounced in societies lacking strong public enforcement institutions than in societies which have them.²⁰

A desire to retaliate not motivated by hope of compensation or by desire to establish a reputation that will deter future wrongdoing directed against oneself is a form of negative altruism. The victim or his family incurs the costs (including possibly substantial risks to personal safety) of avenging a wrong because injuring the wrongdoer increases the avenger's utility. To emphasize the effects of retaliation on the victim's utility is not, however, to offer a utilitarian *justification* of retribution. Such a justification would require that the increase in the victim's (or his family's) utility exceed the reduction in the wrongdoer's utility brought about by the punishment, and the measurement problem is intractable. My point is only that the avenger must derive utility from his act in order to be motivated to do it in the absence of compensation.

The assumption of interdependent utilities is, of course, not a new one in economics; it lies behind much of the work on the economics of the family.²¹ What is somewhat new (though not entirely, because economists have some-

¹⁹ See, for example, Richard A. Posner, *Gratuitous Promises in Economics and Law*, 6 *J. Legal Stud.* 411 (1977).

²⁰ See Richard A. Posner, *The Homeric Version of the Minimal State*, 90 *Ethics* 27 (1979); Posner, *supra* note 3, at 39 n.84. The direction of causation may be a problem here: the presence of highly individualistic, touchy, quick-to-anger individuals may make it more difficult for a society to create and maintain effective public institutions.

²¹ See Gary S. Becker, *Altruism, Egoism, and Genetic Fitness: Economics and Sociobiology*, 14 *J. Econ. Lit.* 817 (1976).

times discussed envy)²² is the assumption of interdependent *negative* utilities. The ultimate basis of both types of interdependence would appear to be biological. Just as biologists have related (positive) altruism within the family to genetic fitness,²³ even using the term "familial solidarity,"²⁴ so they have remarked the survival value of a gene for retaliation against aggression.²⁵ The analysis is complex where retaliation is "irrational" judged by the costs and the deterrence benefits of the retaliatory act as they appear when the act is committed, but even here, as we have seen, the act may be rational, may contribute to survival, when viewed not in isolation but as the price the individual pays for having a genetically programmed policy of retaliation.²⁶ And if this point is accepted, then it is easy to see how a disposition to retaliate for a wrong done not to oneself but to a member of one's family might also contribute to survival.

The vengeful component in our genetic makeup remains an important element in deterring aggression today. Nuclear deterrence is premised on the belief that a nation's leaders will retaliate in circumstances (the complete destruction of the nation) where retaliation could yield no tangible benefits. Another example is the belief that people will terminate trading relations with those who have cheated them without calculating the costs and benefits of continuing those relations—without, that is, treating the costs to them of the wrong as sunk costs. Suppose it is true, as has recently been alleged, that the Ford Motor Company knowingly installed an abnormally and dangerously fragile gas tank in its Pinto automobiles without warning customers or offering a compensating price reduction. There are two possible reactions by owners of Pinto cars to this knowledge. One is simply to use the information about Ford's conduct to estimate the likelihood that Ford would do this sort of thing again compared to another automobile manufacturer. In this case the owners of Pintos would react no differently on average than owners of other automobiles—their indignation at having been cheated would have no effect on their purchasing behavior. (In many cases, of course, the de-

²² For a recent and rigorous analysis of envy within the family, see Gary S. Becker, *Altruism in the Family* (June 1979) (unpublished paper, Univ. of Chicago, Dep't of Econ.).

²³ See references in Becker, *supra* note 21.

²⁴ Donald T. Campbell, *On the Genetics of Altruism and the Counter-Hedonic Components in Human Behavior*, 28 *J. Soc. Issues*; No. 3, at 21 (1972).

²⁵ See Robert L. Trivers, *The Evolution of Reciprocal Altruism*, 46 *Q. Rev. Biology* 35, 49 (1971); J. Hirshleifer, *Natural Economy versus Political Economy*, 1 *J. Soc. & Biological Structures* 319, 332, 334 (1978). Hirshleifer, very much in the spirit of this paper, speaks of "reactive responses whose delivery is guaranteed by emotion." *Id.* at 332.

²⁶ Thus Trivers, *supra* note 25, at 49, notes that retaliation "often seems out of all proportion to the offenses committed. Friends are even killed over apparently trivial disputes. But since small inequities repeated many times over a lifetime may exact a heavy toll in relative fitness, selection may favor a strong show of aggression when the cheating tendency is discovered."

frauded consumers will have better information than the nondefrauded. I use the notorious Pinto example to eliminate any such information difference.) The other possibility is that many Pinto owners will want to reduce the wealth of the Ford Motor Company and will, therefore, at some cost to themselves, refuse to buy Ford products in the future. In this case Pinto owners would be reacting differently from owners of other automobiles.

The economic literature on fraud assumes that the discovery of fraud will lead to a sharp drop in the defrauder's business but is vague as to whether the drop will occur solely as a reaction to the information that the discovery conveys of the risks of continuing to deal with the seller in the future, or also because defrauded customers will be motivated by negative altruism, a factor independent of information. One recent article suggests, however, that the discovery of fraud may result in the seller's losing future business from the defrauded buyers because of negative altruism,²⁷ and another states: "Although it may not always be in one's narrow self-interest to punish the other party to . . . a reciprocal relationship since termination may impose a cost on both, it may be rational for one to adopt convincingly such a reaction function to optimally prevent cheating."²⁸ This statement seems to be talking about the *deliberate* adoption of a retaliatory posture, but deliberateness is unnecessary if the desire to retaliate has a genetic basis.

The sort of "retribution" I have described in the consumer case is not called by such ominous names as retribution or vengeance and is not looked at askance, as something primitive or irrational. (Nor is it irrational, even if unconscious. Rationality to the economist is a matter of consequence rather than of state of mind.) Yet people who seek to predicate criminal punishment on the desire for revenge are thought bloodthirsty and archaic. There are two reasons for the different reactions in these two cases. First, we rely on the state to enforce the criminal laws to a greater extent than we rely on it to protect consumers from getting cheated. While there is a Federal Trade Commission, the prospect of losing future business probably deters more consumer fraud than the expected costs of FTC proceedings. The criminal area, too, was until the nineteenth century largely private,²⁹ but today the primary responsibility for bringing criminals to justice rests on civil servants rather than on the victims of crime or their families. The smaller the private role in law enforcement is, the less functional is revenge. Police officers and other civil servants employed by the criminal justice system are not moti-

²⁷ See Benjamin Klein & Keith B. Leffler, *The Role of Price in Guaranteeing Quality* 35 n. 40 (n.d.) (Discussion Paper No. 149, U.C.L.A., Dep't of Econ.) (forthcoming *J. Pol. Econ.*).

²⁸ Benjamin Klein, Robert G. Crawford, & Armen A. Alchian, *Vertical Integration, Appropriate Rents, and the Competitive Contracting Process*, 21 *J. Law & Econ.* 297, 305 n.18 (1978).

²⁹ See, e.g., Douglas M. MacDowell, *The Law in Classical Athens*, ch. IV (1978); 2 Leon Radzinowicz, *A History of English Criminal Law and Its Administration from 1750* (1957).

vated by vengeful feelings. They are paid to administer a criminal justice system based primarily on a deterrent rationale. To be sure, even a public enforcement system relies to some extent on the "thirst for revenge" which motivates victims and sometimes even bystanders to assist the police. That a victim of crime is quite likely to complain to the police and appear as a witness at the trial of the offender, all without compensation, is some evidence that a genetic disposition to retaliate has survived, for his cooperation is unlikely to have a significant effect in deterring future crimes against him. Nevertheless, because its role in criminal justice has shrunk, vengeance has come to seem an archaic emotion in the context of criminal punishment.

The second reason for rejecting vengeance as the basis of criminal punishment today is the wedge between crime and punishment that is created when the probability of imposing punishment is less than one. This wedge, described earlier, is based on sound economic considerations but has the collateral effect of making the punishment for a crime more severe *ex post* than the crime itself. In a system where punishments are characteristically more severe than the crimes for which they are imposed, someone who tries to justify punishment by the equality or proportionality between the suffering of the victim and the suffering of the criminal when he is punished will indeed sound bloodthirsty: he is in effect advocating that the criminal receive a punishment disproportionate to the crime. It is possible to justify the disproportion but not on retributive grounds.

This difficulty tends not to arise in primitive societies. There the punishment is usually made equivalent to the crime, sometimes with distressing literalness. This is appropriate in an economic analysis if the probability of apprehending and punishing the wrongdoer is equal to one. Primitive societies have various devices, discussed elsewhere,³⁰ for pushing the probability of apprehension and punishment near to one, and considerations of solvency and of risk aversion may make this the optimal pattern for most primitive societies. Its side effect is to make the optimum punishment equal in severity to the crime. This may explain why early theorists of retribution, such as the authors of the Old Testament and of the Koran, describe retribution as an equality between the crime and the punishment. It may also explain why in traditional accounts being punished is compared to paying a debt.³¹ In a modern system of punishment, where there need be no exact correspondence between the gravity of the crime and the severity of the punishment (a less serious crime might be punished more severely than a

³⁰ See Posner, *supra* note 3, at 71.

³¹ See, e.g., Lucien Lévy-Bruhl, *The "Soul" of the Primitive* 104 (Lilian A. Clare trans. 1928); Morris, *supra* note 1, at 478; Friedrich Nietzsche, *On the Genealogy of Morals*, in Friedrich Nietzsche, *On the Genealogy of Morals and Ecce Homo* 63 (Walter Kaufmann trans. 1967).

more serious crime if the former were easier to conceal), the debt analogy becomes strained.

A more sophisticated version of retributive justice conceives retribution not as a consequence of the victim's desire for revenge but as a substitute for or limitation on vengeance. The idea is that without some customary or legal constraints, people might react to a wrong by retaliating against the wrongdoer *disproportionately* and, especially when this was so, the original wrongdoer or his family might in turn retaliate against the original retaliator or his family. To avoid an endless cycle of injury, retaliation, and counter-retaliation—a costly system for controlling aggression—custom may prescribe that the retaliator may inflict no more severe injury than the wrong (e.g., a tooth for a tooth rather than an eye for a tooth) and that the wrongdoer may not seek vengeance against the retaliator in turn. Retribution in this view is in part a *limitation* on the severity of punishment under a pure system of retaliation,³² and is distinguished from the latter both by notions of proportionality which limit the level of retaliation and by notions of justice which preclude counter-retaliation by the original wrongdoer (at least where the retaliator observes the proportionality constraint).

This view is important in revealing a serious deficiency in a simple vengeance approach to punishment. There is nothing in the concept of vengeance or in its emotional (genetic) underpinnings that suggests a limitation on the magnitude of retaliation. Once a man is injured, triggering a desire to retaliate, why should he want to inflict *no greater* injury on the aggressor? In at least one case he will surely want to inflict a greater injury on the wrongdoer than the wrongdoer inflicted on him, and that is where the cost of inflicting a greater injury on the wrongdoer is less than the cost of inflicting a lesser injury on him. Often it will be. For example, in many cases it is cheaper to kill a wrongdoer than to wound him. Killing him will reduce the probability that *he* will retaliate (although it will increase the probability of his family's retaliating), and, by removing a witness, will reduce the probability that the retaliation will be detected.

Thus, there can be no assurance that a pure system of retaliation or revenge would result in the imposition of optimal penalties. But this is not to say that there would be too much crime. There might rather be too little. The incidence of spitting in a society in which a person may be killed in revenge for having spat at another will probably be lower than in a society where it is forbidden to kill in revenge for being spat on. However, a punishment scheme in which the punishment is far more serious than the

³² For some representative statements of this view see M. J. L. Hardy, *Blood Feuds and the Payment of Blood Money in the Middle East* 32 (1963); Geoffrey MacCormack, *Revenge and Compensation in Early Law*, 21 *Am. J. Comp. Law* 69, 74 (1973); Perkins, *supra* note 1, at 56; and Leopold Pospisil's article on the Feud in 5 *International Encyclopedia of the Social Sciences* 389 (1968). Compare Armstrong, *supra* note 1, at 487.

crime will not be optimal unless the probability of detection and punishment is very low, and I have suggested that typically in primitive societies it will be high. The closer it is to one, the closer should the severity of the punishment approach the gravity of the crime. This condition would often not be fulfilled in a system of pure vengeance.

While there is a possible genetic basis for retaliation, there is no similar basis for the limitations on retaliation that are imposed by the proportionality component of the concept of retribution. These limitations are presumably cultural, with, however, one possible, partial exception. The common primitive practice of exogamy—that is, of requiring one to marry outside of one's group, usually a kinship group that may include both remote relatives and relatives by marriage so that the requirement of exogamy is distinct from the incest taboo—has the effect of creating family relationships across potentially retaliating groups. And this may mitigate, because of the gene of family altruism, the ferocity with which one group will retaliate against the other for a wrong done to one of its members; it may introduce, that is, the proportionality required by the principle of retribution.

To summarize, in circumstances where (1) law enforcement is private and (2) probabilities of detecting and punishing offenses are high, conditions widely encountered in primitive and early societies, a pure vengeance system is unlikely to be optimal. The age-old disapproval of feuding has an economic basis after all, though it is not the conventional basis (that allowing feuds produces too much violence). Similarly, the view that the retributive theory of punishment represents an advance in social thought about crime over a pure vengeance theory is economically correct, because retribution, implying proportionality, is superior to vengeance as a basis for punishment under the conditions stated above. But retributive justice is not functional when those conditions are not fulfilled—when enforcement is not private and probabilities of detection and punishment are not high—and this may be why the retributive theory of punishment has declined with the rise of modern governments and with the increased concealability of criminal activity that has resulted from the greater privacy of modern life. Retributive theories of punishment appear to belong to particular historical circumstances rather than to have a timeless claim to be regarded as just.

III. RETRIBUTION AGAINST NEIGHBORS AND DESCENDANTS: THE CASE OF "POLLUTION"

I have thus far spoken of retaliation against the wrongdoer by his victim or by the victim's family. But the customs of primitive and early societies often allow retaliation against someone other than the actual wrongdoer,

such as his neighbor or a member of his family. The economic basis of collective responsibility is discussed in another paper.³³ Briefly, its effect is to give a man's neighbors or family an incentive to monitor his behavior so that he does not do something which will create liability that may fall on them. This effect is important in preserving order in a society that lacks formal institutions of law enforcement.

My interest here is in a special form of collective responsibility usually referred to as "pollution."³⁴ In ancient Greece a murderer polluted his city and if he wasn't expelled or killed the citizens would suffer plague or other misfortune. Sophocles' play *Oedipus Tyrannus* describes the pollution of Thebes as a result of Oedipus's murder of his father. Murder or other wrongdoing also, in Greek thought, pollutes a man's descendants. For example, in Aeschylus's play *Agamemnon* we are given to understand that Atreus's wrongdoing contaminates several generations of his descendants. There are parallels to these Greek beliefs in the Old Testament and one can also find similar beliefs in primitive cultures in Africa and elsewhere.³⁵

Pollution differs from family collective responsibility in two ways. First, the punishment operates without human agency; rather than a member of the victim's family taking revenge, the gods visit misfortune on the neighbors or relatives of the wrongdoer. Second, pollution is often "vertical" instead of "horizontal," in the sense of hurting descendants rather than contemporaries of the wrongdoer. This difference is connected with the first because human vengeance will usually be more or less contemporaneous with the wrongdoer's act and so, if directed against a relative of the wrongdoer, will tend to hit a living relative and not an unborn descendant. Supernatural punishment needn't occur so quickly.

This curious form of collective punishment, and its salience in fifth-century Athens, has now to be explained. My explanation will emphasize (1) the reliance on the family to initiate criminal proceedings against a wrongdoer, (2) the small size of Athenian families and the absence of strong

³³ See Posner, *supra* note 3, at 63-64.

³⁴ On pollution in ancient Greece ("*miasma*") see Arthur W. H. Adkins, *Merit and Responsibility*, ch. V (1960); 1 Robert J. Bonner & Gertrude Smith, *The Administration of Justice from Homer to Aristotle* 53-55 (1930); E. R. Dodds, *The Greeks and the Irrational* 35-37 (1951); Douglas M. MacDowell, *Athenian Homicide Law* (1963), especially ch. 14; Erwin Rohde, *Psyche* 176-79, 294-97 (1925). On pollution in a variety of primitive and early societies see Mary Douglas, *Purity and Danger* (1966).

³⁵ See Douglas, *supra* note 34, for examples; also Elizabeth Colson, *The Plateau Tonga* 107-09 (1962); Meyer Fortes, *The Political System of the Tallensi of the Northern Territories of the Gold Coast, in African Political Systems* 239, 253 (Meyer Fortes & E. E. Evans-Pritchard eds. 1940); E. Adamson Hoebel, *The Law of Primitive Man* 156-59 (1954); E. L. Peters, *Some Structural Aspects of the Feud among the Camel-Herding Bedouin of Cyrenaica*, 37 *Africa* 261, 264-65 (1967); J. M. Powis Smith, *The Origin and History of Hebrew Law* 49 (1931).

kinship groups, and (3) a scarcity of alternative devices for maintaining a high expected punishment cost of crime.

Pollution is mentioned most often in connection with a murder within the family, such as Oedipus's murder of his father. A related point is that the pollution resulting from killing a kinsman is harder to cleanse than that resulting from killing a stranger³⁶—the chorus in Aeschylus's play *The Seven Against Thebes* says it is impossible to cleanse. The association of pollution with murder of kin has been noted by both classical scholars and anthropologists and an explanation suggested that is thoroughly congruent with the economic approach. Where a murder or other wrong occurs within the family, the mechanism for revenge, which relies on a member of the victim's family taking action, breaks down: the son who murders his father is the natural avenger of his father's murder.³⁷ Even in fifth-century Athens, when the earlier system (visible in Homer) whereby vengeance was carried out directly by the victim or his family had given way to a system of public adjudication and punishment, the exclusive authority to initiate criminal proceedings in the case of murder and most other acts of the sort we regard as criminal was vested in the victim's family.³⁸ This system could not work effectively in the case of crime within the family, so an alternative remedy was devised—the automatic (or divine) punishment brought about by pollution.³⁹ To the extent that people believed in pollution, and many must have, their belief served to deter crimes which the ordinary machinery of criminal punishment would not have deterred.

A second point to note about pollution, one especially important in explaining its extension to crimes outside the family, is that the most highly developed conception of homicide pollution is found in a society, fifth-century Athens, noted for its small families.⁴⁰ A system of family collective

³⁶ See Hubert J. Treston, Poine 307, 316, 318 (1923).

³⁷ See Adkins, *supra* note 34, at 110-11 n.18; Colson, *supra* note 35; Douglas, *supra* note 34, at 133-34; Lévy-Bruhl, *supra* note 31, at 93; MacCormack, *supra* note 32, at 81-82; Peters, *supra* note 34; Treston, *supra* note 36, at 339; E. H. Meek, Ibo Law, in *Essays Presented to C. G. Seligman* 42, 222 (E. E. Evans-Pritchard *et al.* eds. 1934).

³⁸ See MacDowell, *supra* note 29, at 110-11. Homicide was in fact regarded as a private rather than public wrong. See, e.g., George M. Calhoun, *The Growth of Criminal Law in Ancient Greece* 109 (1927). MacDowell has argued, contrary to the traditional assumption of Greek scholars, that someone other than a relative (or in the case of a slave, his master) could prosecute for murder. See MacDowell, *supra* note 34, at 95; cf. *id.* at 17-18, 133-34. However, since no compensation was paid for prosecuting a murder case, prosecutions by nonrelatives must have been rare and MacDowell offers no example of such a prosecution.

³⁹ See 1 Bonner & Smith, *supra* note 34, at 55.

⁴⁰ For indirect but cumulatively persuasive evidence of the small size of fifth-century Athenian families, see W. K. Lacey, *The Family in Classical Greece* 130, 165 (1968); Zygmunt Niedzelski, *The Athenian Family from Aeschylus to Aristotle* 4, 60, 106 (1955) (unpublished Ph.D. dissertation, Univ. of Chicago). Compare L. P. Wilkinson, *Classical Approaches I. Population & Family Planning, Encounter*, April 1978, at 22.

responsibility presupposes that the wrongdoer's family is sufficiently large that its members can be readily located, for it is the risk of being the target of retaliation that gives each of them an incentive to police the others' conduct. But a striking fact about ancient Greece is the small size of families by primitive, or for that matter nineteenth-century, standards. I am speaking, to be sure, of the household, and kinship groups larger than the household—the gene and the phratry—were recognized. But they were loose and dispersed, compared say to the kinship groups of African tribal society.⁴¹ The members of the gene or phratry were not in a good position to monitor each other's conduct as the members of African kinship groups are and as is necessary if family collective responsibility is to work effectively. The principle of family collective responsibility is well established in African tribal societies and, generally, a murderer is *not* thought to pollute his descendants. The small size of the effective kinship group in Athens was a reason to impose family responsibility vertically, as it were, since by aggregating a man with his descendants a large group of potential targets of retaliation, human or divine, for wrongdoing was created.⁴²

The interesting point has been made that the belief in pollution is associated with the abolition in Athens of the right of the family of a murder victim to seek compensation (the *poinë* referred to by Homer) from the murderer.⁴³ Abolition reduced the probability of punishment; belief in pollution offset (in part at least) the resulting reduction in expected punishment costs, by increasing the severity of punishment.

If it seems incredible to explain by pragmatic considerations so "irrational" a belief as the heritability of sin, consider the fact that in many primitive societies ordinary debts are inherited. As is sometimes said in these societies, "debts never rot."⁴⁴ An explanation of this principle is that given the difficulty of collecting debts in a primitive society that has no judges or police or sheriffs it is necessary to make a debtor's heirs the guarantors of his debt. The heritability of criminal responsibility may also be pragmatic. To be sure, a man's young children and unborn descendants could not be expected to police his conduct no matter how heavily they might be punished for his misdeeds. But their liability to punishment served to check him in another way, by increasing the costs to him of misconduct. As Arthur Adkins explains:

⁴¹ See E. R. Dodds, *supra* note 34, at 34; Victor Ehrenberg, *The People of Aristophanes* 156 (1943); G. Glotz, *The Greek City and Its Institutions* 122 (N. Mallinson trans. 1930).

⁴² Consistently with this point, one finds a strong sense of *tribal* homicide pollution among the Cheyenne Indians, where kinship ties were very loose compared for example to tribal Africa. See K. N. Llewellyn & E. Adamson Hoebel, *The Cheyenne Way*, ch. VI (1941).

⁴³ See Treston, *supra* note 36, at 143-45. On the abolition of *poinë* see also MacDowell, *supra* note 29, at 110.

⁴⁴ See Posner, *supra* note 3, at 24 & n.45.

If one threatens a man that, if he does wrong in certain ways, his family will be blotted out, one is threatening him with a miserable existence after death, since there will be no one to perform the rites. Hence in threatening his descendants one is threatening the man himself: a sufficient guarantee of good behavior, provided that the theory is believed.⁴⁵

In other words, the "superstitious" belief that the dead enjoy the rites performed in their memory by the living⁴⁶ gives a man an incentive not to do anything that will jeopardize the safety of his descendants (for who else will perform the rites for him?). This in turn makes the threat of pollution an effective sanction against misconduct in cases where the ordinary family-initiated criminal processes wouldn't work effectively. It is an example of how superstition can serve social purposes explicable in economic terms.⁴⁷

A somewhat similar device was long employed in England to punish traitors. Not only was the traitor executed but his property was confiscated by the state. Confiscation would impose a cost on him, and thus contribute to deterring treason, if the utility of his heirs entered positively into his utility function. But this method of punishing a man through punishing his heirs requires that he have property. In a poorer society belief in homicide pollution might be a superior substitute for confiscation, especially since the high costs of information in primitive and early societies concerning the workings of the natural world make divine punishment more credible than it would be in modern societies. Another difference between the Greek and the English forms of vertical punishment is that the English relied for its efficacy on the interdependence of the ancestor's and descendant's utility functions; the Greek, more "pragmatic" in this regard, relied on the services that descendants perform for ancestors to motivate the ancestor's concern for the welfare of his descendants.

The idea that a murder polluted an entire city may also, like the idea of pollution of descendants, have been related to the small size of the Greek family. Where people do not live in large families, a different unit of collective responsibility from the (living) family must be used—if not descendants, then the neighborhood, town, or city. As one observer has noted, in Athens "the genes had ceased to mean anything beyond the more or less irrelevant wider family circle. Its members or those of the phratry met only on rare occasions. The communities were therefore of less importance in everyday life *than the neighbors with whom a man lived in direct*

⁴⁵ Adkins, *supra* note 34, at 68-69.

⁴⁶ On which see also Robert Flacelière, *Daily Life in Greece* 57, 196-97 (Peter Green trans. 1965); Wesley E. Thompson, *The Marriage of First Cousins in Athenian Society*, 21 *Phoenix* 273, 280-81 (1967).

⁴⁷ For other examples see Posner, *supra* note 3, at 33, 69.

contact.”⁴⁸ The difference between the pollution of descendants and the pollution of neighbors is (in terms of our original model of optimal criminal punishment) that the former operates on f and the latter on p . Pollution of descendants raises the cost of punishment to the wrongdoer. Pollution of neighbors raises the probability that he will be punished because it increases the incentives of his neighbors to turn him in.⁴⁹ As mobility grows, law enforcement by neighbors can be expected to yield in turn to enforcement by police.⁵⁰

The above analysis may help to explain why, although the society depicted in the Homeric poems (which assumed their present form no later than the early seventh century B.C. and depict a society even older) is more primitive than that of fifth-century Athens, there is very little suggestion in those poems of a belief in pollution. This has puzzled classical scholars. It has been suggested that Homer may have deliberately suppressed references to pollution.⁵¹ Even so, it seems there must have been less belief in pollution in Homeric society, and this could be because in so primitive a society there was no need to supplement the vengeance system of law enforcement with such a belief. To be sure, as in fifth-century Athens, nuclear families in Homer are typically quite small and larger kinship groups apparently not very important. But Homeric society did not face the problem of “urban anonymity” that might have made it difficult to apprehend a wrongdoer in fifth-century Athens unless his neighbors could be turned against him by fear of pollution.⁵² Also, by the fifth century there was a good deal of migration among Greek cities, so that a murderer who made good his escape could relocate elsewhere. Self-exile was more perilous (though not uncommon) in the Homeric period. Finally, as mentioned earlier, in Homeric society the victims of crime (or their families) had monetary incentives to seek redress which had disappeared by the fifth century. In short, it is possible that the expected punishment cost of crime would have been higher in the society depicted by Homer than in fifth-century Athens—but for a belief in pollution which may have arisen precisely to prevent that cost from falling.

Consistently with this analysis, some classical scholars have attributed the rise of belief in pollution in ancient Greece to a decline in security between the period depicted in Homer and the later, archaic period in

⁴⁸ Ehrenberg, *supra* note 41, at 156 (emphasis added).

⁴⁹ “For neighbors have sharper eyes than foxes.” *Id.* at 157. See also T. B. L. Webster, *Athenian Culture and Society* 40 (1973).

⁵⁰ See Joel Feinberg, *Doing and Deserving* 238-41 (1970).

⁵¹ See, e.g., Adkins, *supra* note 34, at 91.

⁵² The population of fifth-century Athens has been estimated at 52,000. See Webster, *supra* note 49, at 40.

which the belief flourished.⁵³ A decline in personal security can also be described as a decrease in the probability that crimes will be punished, and such a decrease can be expected to incite a search for ways of raising the probability, or increasing the level, of punishment. Pollution, as we have seen, operated on both variables.

The retributive theory of punishment has been defended on the ground that it precludes imposition of collective punishment,⁵⁴ of which pollution is a form. But, analyzed from an economic standpoint, retribution, the view that punishment is just only when it is imposed on, and commensurate with the guilt of, a criminal, presupposes that the probability of punishment of crimes is already high. If it is not, devices must be found for increasing either the probability or the severity of punishment. Pollution is such a device. If retributive theory cannot explain it, that is evidence that retribution is not an adequate explanation for punishment.

I do not want to leave the impression that one can expect to find a belief in pollution in every society that has emerged from the rural, large-family state of the typical primitive society. The curious feature of Athens which may explain the importance of pollution, especially in intrafamilial crimes, is that, as mentioned earlier, although the society had reached the stage at which criminal adjudication and punishment were public, it continued to rely on family responsibility to institute punishment. That responsibility was not limited to notifying the prosecutorial authorities; the family had to prosecute the wrongdoer to judgment.⁵⁵ And, unlike later systems of private enforcement (including the Roman, and the English system until the nineteenth century), there was no free entry into the enforcement business—the enforcer had to be a relative of the victim—and no bounties or other compensation were paid the successful enforcer.⁵⁶ But the small size of families meant that family responsibility for punishing wrongdoers would often fail to work because there might not be a competent family member to shoulder the duty of bringing the wrongdoer to bar. One can understand in these circumstances a felt need for some other method of punishment, something automatic; it was met by the concept of pollution.

The foregoing discussion is not offered as a complete analysis of pollu-

⁵³ See Dodds, *supra* note 34, at 44. Dodds himself regards this as only part of the explanation. The rest he ascribes to changes in the family that would appear to me, however, to be the effects rather than the causes of social change.

⁵⁴ See Laird, *supra* note 1, at 373-74.

⁵⁵ See MacDowell, *supra* note 34, at 29.

⁵⁶ On private enforcement in Rome, see Alan F. Westin, *Privacy in Western History: From the Age of Pericles to the American Republic* 51 (Rep. to Ass'n of Bar of N. Y. Special Comm. on Science and Law, Feb. 15, 1965); in England, 2 Leon Radzinowicz, *supra* note 29. Bounties for private enforcers were available for lesser crimes in Greece, however. See MacDowell, *supra* note 29, at 62, 64. On prosecution by nonrelatives see note 38 *supra*.

tion. I have not investigated whether all societies in which a murder is thought to pollute the murderer's descendants or city have the relevant features of fifth-century Athens described above. Nor have I tried to account for those common forms of pollution that attach to acts which are not dangerous or "criminal" as we would understand them.⁵⁷ The discussion is simply a first step toward seeking explanations for pollution in tangible social needs which can be given an economic interpretation.

IV. GUILT VS. RESPONSIBILITY

In vengeance visited upon an innocent person—a murderer's descendants or neighbors—we encounter a characteristic feature of the "primitive" mentality, namely a divorce between guilt and responsibility, or between culpability and liability.⁵⁸ Modern people tend to regard those harmful acts as appropriate for punishment that are either deliberate or negligent, where negligence can be taken to refer to an act that is not cost-justified. There are areas of strict liability in modern law—in fact a growing number. But pollution is a moral rather than legal concept, and the idea of strict liability is more difficult to understand in morality than in law. In law, the rationale of strict liability, whether in modern or in primitive law, has to do with the costs of using the legal system. Compared to liability for either deliberate or negligent acts, strict liability dispenses with having to decide one issue—that of the defendant's intent or negligence, the latter concept having to do with the reasonableness (or efficiency) of his conduct. Stated differently, a standard of strict liability economizes on the information costs of determining liability at a price in higher transfer costs (since the scope of liability is greater than when liability depends on proof of intentional or negligent conduct by the injurer). If information costs are generally higher in primitive societies than in modern societies because of illiteracy and ignorance of natural laws,⁵⁹ but transfer costs are not higher, it is understandable why strict liability should loom larger in primitive than in modern law.

Do information costs also shape moral belief? A striking feature of the moral code of the ancient Greeks, one of the most highly articulated and extensively studied of early moral systems, is precisely the frequent divorce between guilt and responsibility.⁶⁰ Moral responsibility is repeatedly as-

⁵⁷ See Mary Douglas, *Pollution*, in *12 Encyclopedia of the Social Sciences* 336 (1968).

⁵⁸ The importance of liability without fault, or strict liability, in primitive law is stressed in Posner, *supra* note 3, at 71-76. The idea that blaming people for things they can't avoid is "primitive" is mentioned, for example, in Plamenatz, *supra* note 1, at 173-74.

⁵⁹ As argued in Posner, *supra* note 3, at 7-10.

⁶⁰ See, e.g., Adkins, *supra* note 34, at 88-91, 120 ff., 129 n.8. Adkins questions whether

cribed to people on the basis of acts neither deliberate nor negligent, and sometimes totally unavoidable. In Aeschylus's play *The Seven Against Thebes* Eteocles and Polyneices come to grief, we are told, because their father (Oedipus) had cursed them. Oedipus himself had come to grief, despite his best efforts to avoid the curse that had been pronounced on him, because of an ancestor's misdeed. Indeed, the categories misfortune and punishment frequently seem conflated in Greek (and other primitive) thought; at least, consequences count much more than intention in early societies compared to ours. It is the fact that Oedipus killed his father and married his mother rather than the state of mind in which these acts occurred that condemns him and brings suffering to his city.

This difference in moral conceptions may reflect a difference in the costs of information. Intention and negligence do count in an assessment of conduct, because they determine whether the conduct is deterrable; punishing people for conduct which can't be avoided at reasonable cost will either have no effect or a bad (inefficient) effect. Therefore as the costs of information fall with increasing knowledge of the laws of nature and with the creation of effective institutions for determining facts, we can expect both the moral and legal concept of responsibility to move away from strict liability. Thus, while the society depicted in Homer did not distinguish even between voluntary and involuntary homicides,⁶¹ by the fifth century that distinction was well established in Greek criminal law, but it was still far cruder than in modern law.⁶² A secular trend away from strict liability is, indeed, especially to be expected in areas of criminal, and perhaps moral, condemnation, where punishment may exceed simple damages. To require a person to pay someone injured by his activity merely an amount equal to the cost of the injury will not deter activity that confers benefits greater than its costs including injury costs.⁶³ But if the punishment is set above simple damages,⁶⁴ as is characteristic of criminal punishment, strict liability will overdeter; and likewise if moral condemnation, experienced as a substantial cost to those so condemned, is visited on conduct which is blameless.

pollution is a moral category; clearly, however, it is an unpleasant consequence of human conduct, albeit not always culpable conduct. Adkins' doubt suggests how closely modern people associate moral responsibility with blameworthiness.

⁶¹ See, e.g., Calhoun, *supra* note 38, at 16-17; Treston, *supra* note 36, at 75.

⁶² See MacDowell, *supra* note 29, at 114-15.

⁶³ See Posner, *supra* note 11, at 137-38.

⁶⁴ By more than is just necessary to offset a probability less than one that punishment will be imposed. For an explanation of why punishment for crime should exceed simple damages even if the probability that punishment will be imposed is one see Guido Calabresi & A. Douglas Melamed, Property Rules, Liability Rules, and Inalienability: One View of the Cathedral, 85 Harv. L. Rev. 1089, 1125-27 (1972).

V. CONCLUSION

This paper has argued that it is possible to explain, in economic terms, some concepts of punishment that are widely viewed as immoral and irrational, or at least as primitive and nonrational. The paper contributes to the economic literature on crime and punishment by showing that retribution, as well as deterrence (which previous economic analyses have assumed was the only economically rational motive for punishment), can be explained economically.⁶⁵ The paper also contributes to the economic literature on law in general, and primitive law in particular, by showing that retribution, retaliation, and even pollution are rational principles of punishment in the historical circumstances where they are principally found, and by suggesting an economic explanation for the secular trend away from strict liability in criminal law. I have emphasized the importance to a complete economic theory of punishment of positing, as a form of negative altruism, that people may obtain utility from inflicting costs on people who have injured them. This resentment—as Adam Smith recognized—can provide the motivational basis of an economically efficient system of punishment.⁶⁶ Finally, the paper has suggested that ethical concepts change with changes in the economic environment, specifically in the costs of information, and is thus a contribution to a rather scanty economic literature on the economic foundations of our ethical beliefs.

In all of these areas, however, the contribution of the paper is a modest one. As is to be expected of a paper dealing with issues heretofore largely ignored by economists, its findings are slight and tentative. Much more work remains to be done before economics can claim to have provided a general positive theory of punishment.

⁶⁵ Wittman, *supra* note 3, does not suggest that retributive punishment can be explained in economic terms without postulating social preferences unrelated to normal assumptions about human behavior. My only special assumption, one for which I have suggested a possible biological basis, is that people obtain utility from inflicting injury on people who have injured them.

⁶⁶ See Adam Smith, *The Theory of Moral Sentiments* 94, 96 ([1759] 1853 ed.).