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Dane Archer

Rosemary Gartner

Marc Beittel

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HOMICIDE AND THE DEATH PENALTY: A CROSS-NATIONAL TEST OF A DETERRENCE HYPOTHESIS*

DANE ARCHER**
ROSEMARY GARTNER***
MARC BEITTEL****

I. INTRODUCTION

Debate over capital punishment has an extensive history. The debate is complex and confused, partly because support for the death penalty reflects no single theory but, instead, a conglomeration of several different theories. These include retribution, avoidance of economic costs associated with protracted imprisonment, a disbelief in rehabilitation, and, finally, a conception that has come to be called "deterrence theory." While each argument for the death penalty has its supporters, it is deterrence theory that has captured public imagination and scientific attention.

Briefly stated, deterrence theory holds that there is an effective relationship between specific *qualities* of punishment (for example, its certainty, celerity, or severity) and the likelihood that a punishable offense will be committed. A corollary of deterrence theory is that increasing the penalty for an offense will decrease its frequency while decreasing the penalty will cause infractions to multiply. Deterrence theory therefore envisions potential offenders as rational actors who weigh the qualities of potential punishment before acting.

Although capital punishment is ancient, the genealogy of deterrence theory is much more recent. Prior to the last few centuries, the

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** Professor of Sociology, Stevenson College, University of California. Ph.D., Harvard University, 1972; B.A., Yale University, 1968.

*** Ph.D. Candidate, University of Wisconsin. B.A., University of California, 1974.

**** Ph.D. Candidate, State University of New York at Binghampton. B.A., University of California, 1977.

death penalty was imposed often and for a variety of offenses, some of which seem trivial to the modern eye. For most of recorded history, the fate of the executed was regarded as deserved and morally unproblematic. Deterrence theory emerged in the last two or three centuries as societies have, for the first time, felt obliged to provide objective justifications for the death penalty. This need reflected a number of historical developments, including a growing distaste for torture, maiming, stoning, burning, and other forms of judicially-sanctioned violence.[1]

Unique attributes of the death penalty contribute to abolitionist sentiment. The death penalty is both violent and irrevocable, and the discovery of judicial errors in capital cases emphasizes the fallibility of a finding of guilt. This recognition prompted Lafayette's famous remark, "I shall continue to demand the abolition of the death penalty until I have the infallibility of human judgments demonstrated to me."[2] Similarly, violent retribution has become less palatable than it once was. If, through executions, societies seek to exact horrible suffering, it is not clear that contemporary executions maximize this purpose, as Clarence Darrow observed:

> But why not do a good job of it . . . Why not boil them in oil, as they used to do? Why not burn them at the stake? Why not sew them in a bag with serpents and throw them out to sea? . . . Why not break every bone in their body on the rack, as has often been done for such serious offenses as heresy and witchcraft?[3]

At present, retribution, avoidance of economic costs and a lack of confidence in rehabilitation are not sufficiently acceptable justifications for punishment by death. Deterrence theory alone, therefore, occupies center stage in the debate over capital punishment. While deterrence theory may conceal elements of ancient themes (such as a desire for retribution), the theory's manifest doctrine is the saving of lives; the killing of convicted offenders is justified as a means of preserving the lives of future victims of potential or actual offenders. In this sense, somewhat ironically, deterrence theory is itself a manifestation of the increasing sanctity of life.

While deterrence was implicit in punishment literature for centuries, the formal emergence of this theory is often identified with Cesare Beccaria. In his eighteenth century writings on the control and prevention of crimes, Beccaria espoused the general proposition that human

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[1] Archer, *Social Deviance*, in THE HANDBOOK OF SOCIAL PSYCHOLOGY (G. Lindzey & E. Aronson 3d ed. in press).

[2] Green, *An Ancient Debate on Capital Punishment*, in CAPITAL PUNISHMENT 46, 50 (T. Sellin ed. 1967).

[3] *Id.*

behavior can be influenced by variations in punishments.[4] Over the past two centuries, deterrence theory has been prominent in political and parliamentary debates, beginning with the French Constituent Assembly in 1791.[5] It is interesting that the two sides of this 1791 debate over deterrence theory survive, with little modification, in virtually all subsequent debates:

> There is a class of people with whom the horror of crime counts a great deal less than the fear of punishment; their imagination needs to be shaken, that necessitates something which will resound in their soul, which will move it profoundly, so that the idea of punishment is inseparable from that of crime. . . . The wicked does not fear God, but he does have fear, i.e., the sentiment which the scoundrel feels at the sight of the scaffold.[6]
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> . . . .
>
> It is not the fear of punishment which stops the sacrilegious hand of the assassin. . . . The scoundrel always flatters himself that he will escape the law's surveillance. . . . Also, one cannot believe that the man who is so barbaric that he can soak his hand in the blood of his fellow man will be held back by the distant appearance of a cruel fate.[7]

The controversy has flourished in Western societies during the past two decades. In the United States, changes in crime rates and public opinion have fueled the debate. Support for the death penalty has shown a long-term decline, though more recently there has been a resurgence. In the 1930's, surveys showed that roughly two-thirds of the American people supported the death penalty,[8] and as late as the 1950's there was an average of seventy executions per year in the United States.[9] This number fell dramatically during the 1960's. Surveys showed that only a minority of Americans approved of the death penalty during the 1960's, and, from 1968 until January of 1977, there were no executions in the United States.[10]

The recent resurgence of support for capital punishment has supplanted "abolitionist" sentiments with "restorationist" beliefs. The engine driving this reversal is almost certainly the soaring crime rate. After a steady decline since the 1930's, homicide rates and other crime rates began to increase sharply in the mid-1960's.[11] As a single example, the rate for homicide and nonnegligent manslaughter in the United

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[4] Beccaria, *On the Penalty of Death*, in CAPITAL PUNISHMENT 39 (T. Sellin ed. 1967).

[5] Hornum, Two Debates: France, 1791; England, 1956, in CAPITAL PUNISHMENT 55 (T. Sellin ed. 1967).

[6] *Id.* at 62 (quoting Louis-Pierre-Joseph Prugnon, France 1791).

[7] *Id.* at 64 (quoting Jérôme Petion de Villeneuve, France 1791).

[8] SOURCEBOOK OF CRIMINAL JUSTICE STATISTICS, 1981, at 209 (1982).

[9] *Id.* at 518.

[10] *Id.* at 209.

[11] D. Archer & R. Gartner, Violence and Crime in Cross-National Perspective (Yale University Press 1984) (forthcoming).

States doubled between 1963 and 1973.[12] Concern over the rising crime rate presumably caused abolitionist sentiment to wane and support for the death penalty once again enjoys the support of a majority of the American people. While only a handful of executions have occurred since 1977, there has been an increase in the number of states restoring the death penalty. As a result, more than a thousand convicts are now under sentence of death in the United States, and the number grows with each passing week.

The crime rate's effect on the restorationist movement is an interesting *non sequitur*. A contemporary crime rate has no bearing on the validity of deterrence theory; executions do not become more of a deterrent merely because a nation's crime rate has increased. Crime rates and punishment have only a *political* relationship in that crime rates provide a context in which citizens and politicians may be willing to act *as if* the case for criminal deterrence was clear and proven. As a result, it should be stressed that scientific investigation into the deterrence hypothesis is only one of several actors in the dynamic process of abolition and restoration.

The history of this issue is cyclical. Although recent support for the death penalty has mounted rapidly, it could as easily subside. Apart from the seeming impermanence of these changes, the debate between abolitionists and restorationists concerning the deterrence question has centered upon a number of enduring questions, and it is to these more durable issues that this Article is devoted.

II. Dimensions of the Deterrence Hypothesis

The continuing debate over capital punishment is often muddied and convoluted because of fundamental confusion over the precise questions addressed. Therefore, any attempt to summarize this debate should begin with a brief description of some of the different issues and distinctions:

A. *De Facto* versus *De Jure*

Research on the effect of the death penalty may center either upon the legal existence *(de jure)* of capital punishment, or its actual use *(de facto)*. This distinction is important for two reasons. First, some have argued that the mere existence of the death penalty can have a deterrent effect, while others claim that only actual executions will deter. Second, even when two jurisdictions have the same *de jure* death penalty, there may be great variation between their *de facto* applications.

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[12] *Id.*

B. SEVERITY, CERTAINTY, AND CELERITY OF PUNISHMENT

Various qualities of punishment might affect its deterrent effect. One of these is *severity*: Are severe punishments more of a deterrent than less severe penalties? Severity has been a classic focus of the deterrence debate since it concerns the relative deterrence value of executions on the one hand and long prison sentences on the other. A second quality of punishment is *certainty*: Is a punishment less of a deterrent if it is not regularly imposed? This distinction is similar to the *de jure* versus *de facto* distinction noted above. Still another quality of punishment is its *celerity*: Does the length of time between arrest and a punishment influence its deterrent value?

C. EXTENT OF PUBLIC KNOWLEDGE OF LEGAL PUNISHMENTS

Some researchers believe that the death penalty can be a deterrent even if its existence is only vaguely perceived. Others argue that the death penalty is a deterrent only if the public is vividly aware of its existence. This issue is of interest because convicted offenders tend not to know which offenses merit the death penalty, or whether the state in which they live has capital punishment. Since deterrence theory envisions that potential and actual offenders will weigh the consequences of their actions, offenders' knowledge of those consequences is of pivotal importance.

D. RATIONAL NATURE OF THE CRIMINAL ACT

There is disagreement about the degree to which the commission of a crime warranting the death penalty is a rational act. For example, while an assassination may be highly purposive, most homicides are unplanned, impulsive acts among intimates and acquaintances. Given the volatile nature of the offense, it is improbable that participants will consider the gravity of statutory punishments. Even if capital penalties are intellectually known, therefore, violent crimes are not compatible with the kind of dispassionate calculation envisioned by deterrence theory.

E. RATIONALES FOR PUNISHMENT

Societies can control or punish violent individuals by various means and for different purposes. *General deterrence* refers to the use of punishment to discourage criminal behavior of individuals other than the person convicted. *Specific deterrence* affects the future potential criminal activity of the convicted offender. *Incapacitation* makes offenders less of a threat through removal from society. *Retribution* uses punishment to satisfy the wronged party (narrowly defined as the victim or broadly defined as society) by making offenders suffer for their wrongdoing. The

objective most often given for the death penalty is general deterrence. Both incapacitation or specific deterrence could be achieved by incarceration alone. The principle of retribution has adherents but, as already indicated, is less socially acceptable than the principle of deterrence.

F. SIMULTANEOUS EFFECTS OF CRIME AND PUNISHMENT

Any systematic test of deterrence theory must consider possible feedback effects between crime rates and punishments. For example, increased crime rates may overload the criminal justice system, reducing its efficiency. This could diminish the likelihood or speed of arrest, conviction, or execution of a capital offender. Any resulting decrease in deterrence would be due as much to the escalating crime rate as to the nature of statutory punishments. While specific qualities of a punishment may influence its effective deterrence, these qualities are not static but vary with the crime rate and other dynamic features of the criminal justice system.

G. SCIENTIFIC V. PHILOSOPHIC JUSTIFICATIONS

Much of the death penalty debate has centered upon *scientific* efforts to assess capital punishment's deterrent effects. Other approaches are, of course, moral and philosophical. These perspectives are influenced not by scientific data but by fundamental beliefs regarding the taking of human life as a form of punishment. For example, Gelles and Straus argue that support for the death penalty increasingly reflects a retributive orientation; that is, some people favor the death penalty not because they believe it deters crime but because they believe that offenders ought to suffer extreme punishment.[13] The increasing significance of moral sentiments is also shown by a survey that found that seventy-five percent of those who oppose capital punishment would not change their position even in the face of conclusive proof that capital punishment deters homicide.[14]

III. GENERAL APPROACHES TO THE DETERRENCE QUESTION

As this list of seven issues indicates, there are several questions in the death penalty debate that complicate efforts to summarize deterrence literature. In addition, empirical studies of the deterrence hypoth-

[13] Gelles & Straus, *Family Experience and Public Support of the Death Penalty*, 45 AM. J. ORTHOPSYCHIATRY 596 (1975).

[14] Ellsworth & Ross, *Public Opinion and Judicial Decision-Making: An Example from Research on Capital Punishment*, in CAPITAL PUNISHMENT IN THE UNITED STATES 152, 168 (H. Bedau & C. Pierce eds. 1976).

esis are characterized by substantially different methods, scope of analysis, quality of data and research design and, not surprisingly, different results as well. Over the past few years, several reviews of deterrence research have appeared.[15] Rather than attempt another such review, this Article will selectively examine the issues most relevant to a cross-national examination of the deterrence hypothesis.

Cross-sectional deterrence studies compare homicide rates at a single point in time. Such studies require a comparison of at least two jurisdictions. Both *de facto* and *de jure* questions have been studied using cross-sectional designs. The *de facto* issue could be studied by comparing either: (1) jurisdictions with a high execution risk (the probability of execution for a capital conviction) to those with a low execution risk, or (2) jurisdictions with many executions to jurisdictions with few executions within a specified period of time.

Cross-sectional studies of the *de jure* question compare jurisdictions that have abolished, or never had, the death penalty to those that have retained capital punishment. These *de jure* comparisons are typically made without regard to the *de facto* imposition of the death penalty. Cross-sectional studies look for linkages between higher execution risks, or retention of the death penalty, and differences in homicide rates.[16]

Cross-sectional designs are inherently weak and subject to criticism on many grounds. For example, these studies assume that linkages between crime rates and penal structure result from the effect that the penal structure has on crime rates. However, high or low crime rates could have influenced the severity of punishment rather than the other way around. Limitations such as this have led most researchers to prefer longitudinal tests of the deterrence hypothesis. Longitudinal studies examine changes in homicide rates over time, making it feasible to disambiguate the causal relationship between crimes and punishments. Like cross-sectional studies, longitudinal studies can involve more than one jurisdiction, thus allowing increased control over unique factors in a single jurisdiction.

As with cross-sectional studies, longitudinal studies can examine

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[15] *See, e.g.*, CAPITAL PUNISHMENT IN THE UNITED STATES (H. Bedau & C. Pierce eds. 1976); DETERRENCE AND INCAPACITATION: ESTIMATING THE EFFECTS OF CRIMINAL SANCTIONS ON CRIME RATES (A. Blumstein, J. Cohen & D. Nagin eds. 1978); T. SELLIN, THE PENALTY OF DEATH (1980).

[16] In general, direct cross-sectional comparisons of the *levels* of homicide across jurisdictions are of questionable validity if these jurisdictions do not share legal systems, definitions of crime, and practices of offense reporting and recording. Partly for these reasons, cross-sectional studies are almost always limited to comparisons of states with the United States. Even so, it has been argued that there is enough variation among states on these various factors to warrant statistical control measures. This issue is discussed later in this paper. *See infra* text accompanying note 35.

either the *de facto* or the *de jure* question. *De facto* longitudinal studies compare changes in the homicide rate before and after executions or as the general risk of execution changes over time. Most longitudinal *de facto* research has studied only a single jurisdiction. *De jure* longitudinal studies compare homicide rates in one or more jurisdictions before and after the abolition or restoration of the death penalty.

Most tests of the deterrence hypothesis in this century have used one of the approaches just described. With the exceptions indicated below, very little research has extended beyond national boundaries. Most studies have examined only individual American states or aggregate United States statistics. With this limitation in mind, existing evidence on the deterrence hypothesis can be summarized briefly.

IV. SELECTED EVIDENCE ON THE EFFECTS OF CAPITAL PUNISHMENT

Debate over capital punishment is anything but modern. As early as the 1830's, the death penalty was under attack in several American state legislatures resulting in a moratorium on public executions. A Massachusetts state legislator named Robert Rantoul, Jr. figured prominently in this debate. In various public meetings, Rantoul presented statistics he had assembled on the deterrence question. Rantoul's efforts were unusually sophisticated and in fact were more extensive and detailed than many studies done a century later.

Rantoul examined long-term trends in a number of European countries and found that nations with a low proportion of executions to convictions had declining homicide rates, precisely the reverse of what deterrence theory would predict. Rantoul also examined short-term patterns and found that periods with unusually high numbers of executions were followed by increased incidence of homicide. Because of its sophistication and breadth, Rantoul's work is a landmark in the history of deterrence research.[17]

Systematic deterrence research by social scientists began during a second "reform" era in the United States early in this century. Over a period of fifty years, social scientists conducted a number of analyses focused primarily on the *de jure* issue.[18] The general conclusion drawn

[17] Rantoul's work is discussed in greater detail in Bowers & Pierce, *Deterrence or Brutalization: What is the Effect of Executions?*, 26 CRIME & DELINQ. 453 (1980).

[18] These studies include R. BYE, CAPITAL PUNISHMENT IN THE UNITED STATES (1919); CAPITAL PUNISHMENT (T. Sellin ed. 1967); R. DANN, THE DETERRENT EFFECT OF CAPITAL PUNISHMENT (1935) (Bulletin 29 of the Committee on Philanthropic Labor of Philadelphia Yearly Meeting of Friends); Reckless, *The Use of the Death Penalty*, 15 CRIME & DELINQ. 43 (1969); Schuessler, *The Deterrent Influence of the Death Penalty*, 284 ANNALS 54 (1952); Sellin, *Capital Punishment*, 25 FED. PROBATION 3 (Sept. 1961); Sutherland, *Murder and the Death Pen-*

from these studies is captured by Sellin's much cited statement: "[T]he presence of the death penalty—in law or practice—does not influence homicide death rates."[19] This body of *de jure* research has been criticized on several grounds, and, by the early 1970's, some social scientists seriously questioned the conclusion that the death penalty was not an effective deterrent. Critics of *de jure* research have pursued several different arguments:

> They have complained (1) that gross homicide rates are not sensitive enough to pick up deterrent effects, specifically, that the proportion of capital to noncapital homicides could be varying even when the overall homicide rate remains unaffected by abolition; (2) that the use of contiguous jurisdictions and before and after comparisons does not fully control for all other factors which could conceivably be masking deterrent effects; and (3) that deterrent effects may not be "jurisdictionally specific" within a nation, that people may not be responsive to the presence of, or changes in, capital statutes in the particular state where they reside, as distinct from neighboring states.[20]

These criticisms prompted new research designs using different methods. Relying chiefly on the statistical use of multiple regression, a number of studies have tried to control for differences across jurisdictions or over time that could influence homicide rates. In this way, researchers seek to determine how much of any observed change in the homicide rate is due to the existence of capital punishment and actual executions or, alternately, to nonpunishment variables such as changes in age structure and urbanization.

One of the first of these studies was conducted by Ehrlich.[21] Using aggregate homicide data for the United States for the period 1933-70, Ehrlich analyzed the effect of the probability of execution upon homicide rates. Ehrlich also controlled for a variety of other factors, including unemployment, age distribution, and per capita income. Based upon this analysis, Ehrlich concluded that executions did have a deterrent effect and, specifically, that between seven and eight homicides were deterred by each execution.[22]

Although Ehrlich's work found an eager audience among many policy makers, a number of researchers using similar and equally sophisticated methods have extensively criticized his work.[23] Many of these

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alty, 15 J. AM. INST. CRIM. L. & CRIMINOLOGY 522 (1925); Vold, *Can the Death Penalty Prevent Crime?*, 12 PRISON J. 4 (1932); Vold, *Extent and Trend of Capital Crimes in the United States*, 284 ANNALS 1 (1952).

19 CAPITAL PUNISHMENT 138 (T. Sellin ed. 1967).

20 W. BOWERS, EXECUTIONS IN AMERICA 20 (1974).

21 Ehrlich, *The Deterrent Effect of Capital Punishment: A Question of Life and Death*, 65 AM. ECON. REV. 397 (1975).

22 *Id.* at 414.

23 Bowers & Pierce, *The Illusion of Deterrence in Isaac Ehrlich's Research on Capital Punishment*,

criticisms have been thoroughly summarized elsewhere[24] and need not be repeated here. Because Ehrlich's work is one of very few studies to find any support for the deterrence hypothesis, it has garnered widespread scientific interest.

Attempted replications of Ehrlich's work using similar methods (multivariate analyses and econometric methods) have failed, however, to find a deterrence effect. For example, Loftin did an elaborate ecological analysis of crime rates and social characteristics in the United States. When social and economic variables such as poverty, education, and family structure were controlled, Loftin's study found little or no evidence for the deterrence hypothesis.[25] Similarly, Brier and Fienberg used econometric models to test for a deterrence effect, and they concluded that the claims made in Ehrlich's 1975 study were not supported by the evidence.[26] Finally, some of the most interesting longitudinal evidence involves separate time-series analyses from five different states examining the relationship between execution risk and homicide rates. Here, again, the evidence runs counter to deterrence theory in three of the five states examined.[27]

In recent research, there is even some evidence for what might be called an *"antideterrent"* effect. A fine-grained study by Bowers and Pierce examined monthly homicide rates in New York State between 1907 and 1963 and found an average *increase* of two homicides in the month after an execution. This finding led Bowers and Pierce to postulate, in direct opposition to the deterrence hypothesis, a "brutalizing" effect, that is, that executions might increase rather than deter homi-

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85 YALE L.J. 187 (1975); Brier & Fienberg, *Recent Econometric Modelling of Crime and Punishment: Support for the Deterrence Hypothesis?*, in U.S. DEPT. OF JUSTICE, BUREAU OF JUSTICE STATISTICS, INDICATORS OF CRIME AND CRIMINAL JUSTICE: QUANTITATIVE STUDIES 82 (S. Fienberg & A. Reiss eds. 1980) [hereinafter cited as INDICATORS OF CRIME AND CRIMINAL JUSTICE]; Klein, Forst & Filatov, *The Deterrent Effects of Capital Punishment: An Assessment of the Estimates*, in DETERRENCE AND INCAPACITATION: ESTIMATING THE EFFECTS OF CRIMINAL SANCTIONS ON CRIME RATES, *supra* note 23, at 336; Loftin, *Alternative Estimates of the Impact of Certainty and Severity of Punishment on Levels of Homicide in American States*, in INDICATORS OF CRIME AND CRIMINAL JUSTICE, *supra*, at 75; Passell & Taylor, *The Deterrence Controversy: A Reconsideration of the Time Series Evidence*, in CAPITAL PUNISHMENT IN THE UNITED STATES (H. Bedau & C. Pierce eds. 1976).

24 *See, e.g.*, DETERRENCE AND INCAPACITATION: ESTIMATING THE EFFECTS OF CRIMINAL SANCTIONS ON CRIME RATES, *supra* note 15.

25 Loftin, *supra* note 23.

26 Brier & Fienberg, *supra* note 23.

27 *See* Bailey, *An Analysis of the Deterrent Effect of the Death Penalty in North Carolina*, 10 N.C. CENT. L.J. 29 (1978); Bailey, *Deterrence and the Death Penalty for Murder in Oregon*, 16 WILLAMETTE L.J. 67 (1979); Bailey, *Deterrence and the Death Penalty for Murder in Utah: A Time Series Analysis*, 5 J. CONTEMP. L. 1 (1978); Bailey, *The Deterrent Effect of the Death Penalty for Murder in Ohio: A Time Series Analysis*, 28 CLEV. ST. L. REV. 51 (1979); Bailey, *The Deterrent Effect of the Death Penalty in California*, 52 S. CAL. L. REV. 743 (1979).

cides.[28] In summary, recent studies of the *de facto* issue do not contradict the long-standing conclusion from *de jure* research that the death penalty has no consistent, demonstrable deterrent effect.

A number of specific issues continue to bear upon new research regarding deterrence theory. Two of these are of generic importance, and recent evidence on each can be summarized briefly.

A. ARE GROSS HOMICIDE RATES SENSITIVE ENOUGH TO PICK UP DETERRENT EFFECTS?

Over fifty years ago, Sutherland stated that "the ordinary practice of drawing conclusions regarding changes in murder rates from changes in homicide rates is logically invalid. But it is the only method that can be used, since we have no other statistics available."[29] Despite the subsequent introduction of the Uniform Crime Reports in 1933, the lack of specific, disaggregated statistics has remained a problem:

> In the United States, generally only one type of homicide—murder in the first degree—is punishable by death, with murder in the second degree and voluntary manslaughter usually being punished by imprisonment. Typically, however, investigations of the death penalty have operationally defined premeditated murder as homicide, a much more inclusive offense category. This practice has been necessitated by the fact that no alternative statistics are currently available on a nationwide basis that break down homicide by type and degree. As a result, investigators have been forced to make a large and possibly erroneous assumption whether they use police or mortality statistics, that the proportion of first degree murders to total homicides remains constant so that the statistics on the latter provide a reasonably adequate indicator of capital offenses.[30]

In order to test this crucial assumption, Bailey collected disaggregated data on first- and second-degree murder convictions from a number of state court systems. He then examined the relationship between capital punishment and murder rates in a manner similar to earlier studies by Schuessler[31] and Sellin.[32] Bailey's approach differed from these earlier analyses, however, in that "the murder data examined . . . permit a direct rather than indirect assessment of the relationship between capital homicides and the death penalty."[33] Bailey found no evidence for a deterrent effect whether one examined second-degree, first-degree, or all homicides combined. This research cast doubt on claims

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28 Bowers & Pierce, *supra* note 17.

29 Sutherland, *supra* note 18, at 522.

30 Bailey, *Murder and the Death Penalty*, 65 J. CRIM. L. & CRIMINOLOGY 416, 418 (1974).

31 Schuessler, *supra* note 18.

32 CAPITAL PUNISHMENT (T. Sellin ed. 1967); THE DEATH PENALTY (T. Sellin ed. 1959).

33 Bailey, *supra* note 30, at 418.

that the deterrent effect existed but had been masked by the insensitivity of gross homicide rates.

B. DOES THE USE OF CONTIGUOUS JURISDICTIONS, ALONG WITH THE USE OF BEFORE AND AFTER COMPARISONS, FAIL TO CONTROL FOR ALL FACTORS WHICH COULD MASK DETERRENT EFFECTS?

Ernest van den Haag, a strong critic of much deterrence research, has argued that "[h]omicide rates do not depend exclusively on penalties any more than other crime rates. A number of conditions which influence the propensity to crime, demographic, economic, or social, . . . may influence the homicide rate."[34] To control for these factors, some investigators have compared only presumably similar jurisdictions such as contiguous states.

Because of differences between even contiguous jurisdictions, critics have claimed that this procedure provides inadequate controls. In response, Bailey compared states with and without the death penalty, while controlling for two socioeconomic and five demographic variables. As an additional control, retentionist and abolitionist states with similar rates of aggravated assault were compared to hold constant potentially significant etiological factors. Regardless of which control variables were included, Bailey found retentionist states had higher murder rates than abolitionist states.[35] Again, the evidence runs contrary to the deterrence hypothesis. Therefore, while the inclusion of additional control variables would certainly have improved many studies, additional controls would not appear to have changed the conclusion that the death penalty does not deter crime.

V. GENERAL AND SPECIFIC DETERRENCE HYPOTHESES

According to the general deterrence hypothesis in its *de jure* form, *ceteris paribus*, abolition of capital punishment increases homicide rates.

The *de facto* form of the hypothesis is concerned with actual executions rather than changes in policy or law. While *de facto* research has incontestable importance, the *de jure* issue is inherently interesting since it is central to policy decisions. In addition to what is here called the *general* deterrence hypothesis, a number of more precise deterrence hypotheses can be derived.

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[34] van den Haag, *On Deterrence and the Death Penalty*, 78 ETHICS 280, 285 (1968).

[35] Bailey, *supra* note 30.

A. OFFENSE DETERRENCE

Criminal penalties, and therefore their hypothesized deterrent effects, are offense-specific. Where it exists, the death penalty is prescribed for a society's most grievous offenses. In terms of deterrence theory, the death penalty should have its most direct effects on the offenses for which the death penalty can be imposed.

This specific hypothesis, which might be called "offense deterrence," postulates that capital punishment will have its most perceptible effects on capital crimes, the offenses executions are imposed to deter. In terms of offense deterrence, the effect of capital punishment on lesser crimes is less predictable. If the hypothesis of offense deterrence has merit, abolition of the death penalty should be followed by increases in capital offenses. In addition, the increases in these capital offenses should be larger and more consistent than any other post-abolition crime rate changes.

B. RESIDUAL DETERRENCE

If the general deterrence hypothesis is correct, abolition should be followed by homicide rate increases. There is disagreement, however, about the temporal aspects of this relationship and, specifically, when the increases can be expected to occur.[36] *De jure* case studies have uniformly found that the abolition of the death penalty does *not* produce any sudden or dramatic changes in homicide rates. While this result is frequently cited as evidence against the deterrence hypothesis, some have argued that it may reflect only public ignorance of changes in capital statutes.[37] Individuals, ignorant of changes, may continue to be deterred as if capital punishment still existed.

Although research indicates that public ignorance of the law is widespread,[38] it seems reasonable that people might be better informed about capital punishment because of the extremity of the punishment, extensive media attention, and frequent controversy. Some deterrence theorists still believe, however, that genuine deterrence effects are

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36 Comparative examinations of homicide rates before and after abolition . . . [or] . . . the restoration of the death penalty, have . . . questioned the efficacy of capital punishment. These investigations reveal that states that have abolished the death penalty have generally experienced no unusual increase in homicide. Moreover, the reintroduction of the death penalty (eleven states have abolished the death penalty but later restored it) has not been followed by a significant decrease in homicide.

Bailey, *supra* note 30, at 417.

37 *See* van den Haag, *supra* note 34.

38 In a survey of public awareness of recent increases in criminal penalties, half the respondents were unaware of the changes and could not even guess whether penalties had increased or decreased. Miller, Rosenthal, Miller & Ruzek, *Public Knowledge of Criminal Penalties: A Research Report*, in THEORIES OF PUNISHMENT 205 (S. Grupp ed. 1971).

masked by public ignorance. "A constant homicide rate, despite abolition, may occur because of unawareness and not because of lack of deterrence: people remain deterred for a lengthy interval by the severity of the penalty in the past, or by the severity of penalties used in similar circumstances nearby."[39]

This hypothesis posits the existence of what might be called "residual deterrence," a deterrent effect that lingers after the death penalty is abolished. Residual deterrence may complicate studies of the death penalty, but it does not, as some have implied, make systematic evaluation impossible. For example, even if residual deterrence exists, it should weaken over time as more people become aware that the law has changed; residual deterrence should be strong in the first year after abolition, weaker five years later, and weaker still as time goes on. As a result, if general deterrence theory is correct, one would expect to see progressive increases in homicide rates as residual deterrence erodes in the years following abolition.

C. VICARIOUS DETERRENCE

A parallel argument, that citizens are deterred by the existence of the death penalty in adjacent jurisdictions, might be called "vicarious deterrence." If deterrence is not jurisdiction-specific, people living in a state without the death penalty might be deterred by an incorrect belief in the possibility of capital punishment. If vicarious deterrence exists, the existence of *any* capital statute could affect citizens in retentionist and abolitionist states alike.[40] As a result, the effects of abolition might be invisible in *de jure* studies conducted in contiguous states.

The possibility of vicarious deterrence lends increased importance to cross-national research. If vicarious deterrence has validity, one would expect to find invisible or "masked" deterrence in *de jure* studies of local jurisdictions, but not in studies of independent societies. A cross-national study therefore provides a relatively pure test of the *de jure* hypothesis, unaffected by vicarious deterrence, because it seems extremely unlikely that legislation in one nation would have any vicarious deterrent effects in another nation.

Despite their obvious importance, cross-national studies of deterrence are relatively rare and large-sample comparisons are almost unknown. In the early 1930's, the (British) Royal Commission on Capital Punishment heard extensive testimony from expert witnesses representing European and Commonwealth nations. Based upon the available evidence, the Commission concluded: "Capital Punishment may be

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39 van den Haag, *supra* note 34, at 286.

40 *Id.*

abolished in this country [Britain] without endangering life or property or impairing the security of society."[41] Almost two decades later, the Commission was reestablished for a more extensive, four-year examination of the question. The new Commission affirmed the earlier conclusion: "There is no clear evidence in any of the figures we have examined that the abolition of capital punishment has led to an increase in the homicide rate, or that its reintroduction has led to its fall."[42] The 1962 European Committee on Crime Problems supported this conclusion.[43]

The trend toward abolition increased during the 1960's but there have been no systematic efforts during this period to collect and evaluate data from a large sample of abolitionist nations. Individual case studies vary greatly in their procedures and use of controlled comparisons. As a result, existing cross-national evidence suffers from a confusing patchwork of results.

While a cross-national test of the deterrence hypothesis is not without complications, the principal obstacle has been the absence of longitudinal offense data from a large sample of societies. A cross-national archive of data on rates of homicide and four other offenses now exists. Called the Comparative Crime Data File (CCDF), this archive contains time series data beginning in 1900 for 110 nations and forty-four major international cities.[44]

With appropriate methodological caution, the CCDF makes possible a large number of comparative investigations, including research on deterrence theory. Data from the CCDF have been used to examine the effects of war on rates of violent crime,[45] urban homicide rates,[46] and a number of generic methodological issues.[47] Because of the depth and

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41 E. CALVERT, THE DEATH PENALTY ENQUIRY 48 (1931) (quoting Report from the Select Committee on Capital Punishment 94 (1930)).

42 GREAT BRITAIN ROYAL COMMISSION ON CAPITAL PUNISHMENT, FINAL REPORT 23 (1953).

43 EUROPEAN COMMITTEE ON CRIME PROBLEMS, THE DEATH PENALTY IN EUROPEAN COUNTRIES (M.M. Ancel, Chair) (Strasbourg: Council of Europe 1962).

44 D. ARCHER & R. GARTNER, *supra* note 11; Archer & Gartner, *Homicide in 110 Nations: The Development of the Comparative Crime Data File*, in 2 CRIMINOLOGY REVIEW YEARBOOK 433 (E. Bittner & S. Messinger eds. 1980).

45 Archer & Gartner, *Legal Homicide and its Consequences*, in VIOLENCE: PERSPECTIVES ON MURDER AND AGGRESSION 219 (I. Kutash, S. Kutash & L. Schlesinger eds. 1978); Archer & Gartner, *Peacetime Casualties: The Effects of War on the Violent Behavior of Non-Combatants*, in READINGS ABOUT THE SOCIAL ANIMAL 236 (E. Aronson ed. 1981); Archer & Gartner, *The Myth of the Violent Veteran*, 10 PSYCHOLOGY TODAY 94 (Dec. 1976); Archer & Gartner, *Violent Acts and Violent Times: A Comparative Approach to Postwar Homicide Rates*, 41 AM. SOC. REV. 937 (1976) [hereinafter cited as *Violent Acts and Violent Times*]; Archer & Gartner, *War and Violent Crime*, in THE ENCYCLOPEDIA OF CRIME AND JUSTICE (S. Kadish ed. 1983) (forthcoming).

46 Archer, Gartner, Akert & Lockwood, *Cities and Homicide: A New Look at an Old Paradox*, in 1 COMPARATIVE STUDIES IN SOCIOLOGY 73 (R. Tomasson ed. 1978).

47 Archer & Gartner, *Homicide in 110 Nations: The Development of the Comparative Crime Data File*, in READINGS IN COMPARATIVE CRIMINOLOGY 78 (L. Shelley ed. 1981).

breadth of its data, the CCDF offers considerable potential for systematic research on deterrence theory.

VI. Cross-National Data on Fourteen Cases of Abolition

A first step in any cross-national test involves identifying sample abolition cases. This task is more complicated than one might imagine since the degree of abolition may vary from one society to another. Some may abolish capital punishment for mortal offenses generally but retain it for specific crimes, such as the murder of a prison guard by a prisoner serving a life term. Other nations may eliminate the death penalty but provide for its revival during civil emergencies or martial law. The *de jure* question is therefore complicated by the need for discrete classification when, in fact, shades of abolition may be present.

One solution to this classification problem is to roughly define a jurisdiction as "abolitionist" if capital punishment is generally prohibited, even if allowed for extraordinary crimes. It should be emphasized that this is a *de jure* classification; nations in which no executions have occurred for long periods of time cannot be considered abolitionist under this definition if capital punishment remains the law. A further problem in choosing abolition cases is determining the date of the abolition; it could be the date on which the penal code is changed or the date on which the change becomes effective.

After examining different lists of abolitionist nations and dates, we adopted a modified form of the classifications made by Bowers[48] and Joyce.[49] The list was compared to offense rate data from the Comparative Crime Data File. This process yielded a total of fourteen sets of time series data for twelve distinct cases of abolition. In two cases, Austria and Finland, separate records for Vienna and Helsinki provided the opportunity to "replicate" national cases with urban data.[50]

Before presenting the results of these comparisons, it should be emphasized that most efforts to isolate the independent effects of abolition err on the side of simplification. Offense rates are driven by many factors, and single-variable evaluations understate this complexity by pretending that these other forces do not exist. For example, a number of abolitions occurred around war time, and recent research indicates that wars frequently elevate post-war rates of violent crime.[51] Similarly, vast demographic changes—such as the coming of age of individuals from

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48 W. Bowers, *supra* note 20, at 178.

49 J. Joyce, Capital Punishment; A World View 85 (1961).

50 Data for the 1890 Italian case predates the beginning of the CCDF and were obtained from source data for the CCDF. Data for Canada were supplemented by information from recent *Statistics Canada* publications.

51 *Violent Acts and Violent Times*, *supra* note 45.

the post-World War II "baby boom" cohort—can greatly inflate offense rates or otherwise complicate efforts to assess the effects of legal changes. In cross-national studies of deterrence, therefore, the effect of abolition is inevitably muddied by other changes.[52]

For reasons already discussed, a longitudinal design is preferable to crude cross-sectional comparisons. Because of the infinitely large number of idiosyncratic national characteristics, it makes little or no sense to compare abolitionist and retentionist countries at one moment in time. The longitudinal approach, which examines national experiences over time, provides a much stronger basis for inferences about the effect of abolition. The depth and breadth of data in the Comparative Crime Data File allow both longitudinal comparisons and additional control procedures.

VII. CROSS-NATIONAL TESTS OF SPECIFIC DETERRENCE HYPOTHESES

Data from this sample of fourteen cases can be analyzed in a number of ways to provide a test of the *general deterrence* theory prediction that abolition of the death penalty causes a perceptible increase in homicide rates. More precise deterrence hypotheses can be examined as well. *Vicarious deterrence*, the alleged geographic spillover of deterrence from retentionist jurisdictions to abolitionist jurisdictions, is controlled by the examination of sovereign nations. *Residual deterrence*, the alleged temporal spillover of deterrence from retentionist years to abolitionist years, can be tested by examining post-abolition time intervals of progressively greater lengths. *Offense deterrence*, the prediction that post-abolition changes will be most conspicuous in rates of capital offenses, can be tested by contrasting homicide with several noncapital crimes.

A. GENERAL DETERRENCE

Table 1 depicts an initial comparison of the short-term effects of abolition. The percentages in this table indicate the increase or decrease in homicide rates between the year prior to abolition and the year after abolition. The homicide rates upon which the percentages are based are included as a cautionary feature. In some cases, such as New Zealand, the homicide rate is so low in absolute terms that the addition of a single homicide can double the national offense rate. The precise indicators in

[52] Given sufficient data, it would be possible to introduce controls for these specific factors, although other unrecognized sources of variation would of course remain uncontrolled. In the absence of data for *post hoc* controls of this kind, it is important to have enough cases in the analysis to minimize the statistical probability of competing explanations for any observed offense rate changes.

this comparison—offenses known, convictions, etc.—are also shown since these differ for the fourteen cases.

TABLE 1

HOMICIDE RATE LEVELS BEFORE AND AFTER ABOLITION: ONE YEAR COMPARISONS

Jurisdiction	Date of Abolition	Offense Indicator*	One Year Pre-Abolition Homicide Rate	One Year Post-Abolition Homicide Rate	% Change
Austria	1968	e	.72	.71	−1%
England and Wales	1965	a	.36	.35	−3
Finland	1949	a	1.05	.72	−31
Helsinki	1949	a	1.96	1.90	−3
Israel	1954	a	4.00	1.72	−57
Italy	1890	a	13.30	12.94	−3
Sweden	1921	b	.43	.15	−65
Switzerland	1942	d	45.25	35.65	−21
Vienna	1968	e	.93	.93	0
Canada	1967	a	1.10	1.52	38
Denmark	1930	c	33.89	35.68	5
Netherlands Antilles	1957	a	13.19	20.32	54
New Zealand	1961	b	.04	.08	100**
Norway	1905	b	.35	.39	11

*Key to Offense Indicators:
a = homicide offenses known
b = murder, manslaughter, or homicide convictions
c = violent offenses known
d = violent offenses convictions
e = criminal statistics

** Because of an extremely low base rate, this 100% increase reflects a change from 1 to 2 cases.

With these cautions in mind, the picture in Table 1 is one of little change, and, in fact, eight of the fourteen cases (fifty-seven percent) show a homicide rate decrease in the year following abolition while only five (thirty-six percent) show an increase. In this crude short-term comparison, therefore, there is no evidence for the deterrence hypothesis. *De jure* abolition appears to have had little effect and, if anything, appears to slightly decrease homicide rates.

B. RESIDUAL DETERRENCE

If one subscribes to the hypothesis of residual deterrence, however, the comparison in Table 1 is inconclusive. The effects of deterrence still

could be present though masked by public ignorance of abolition, particularly in the first year following this change. For this reason, Table 2 compares longer intervals. It is unlikely that residual deterrence could continue to affect behavior five years after abolition, and the hypothesis becomes even less plausible over longer intervals. The five-year statistics in Table 2 compare the five years of homicide data before and after abolition. This comparison does not include all fourteen cases since some entries in the CCDF did not have data for all of these years. The "maximum possible" comparison in this table reflects the longest intervals before and after abolition for which homicide data were available.

Again, in this comparison there is little evidence for the deterrence hypothesis in general or residual deterrence in particular. In the five-year comparison, half of the ten cases for which the comparison can be made show homicide rate increases following abolition while half show decreases. There is even less support for the deterrence hypothesis when longer intervals are examined. When intervals of maximum possible length are compared, only five of the fourteen (thirty-six percent) cases show homicide rate increases after abolition, while eight (fifty-seven percent) show decreases. This finding runs counter to the hypothesis of residual deterrence. Since homicide rate decreases are found most con-

TABLE 2

HOMICIDE RATE CHANGES BEFORE AND AFTER ABOLITION: LONGER TRENDS

Jurisdiction	One Year	Five Year Means[a]	Maximum Possible Comparison[b]	Years Before Abolition/Years After
Austria	−1%	32%	9%	(15,5)
Canada	38	63	67	(5,6)
Denmark	5	—	4	(9,2)
England and Wales	−3	18	27	(14,7)
Finland	−31	−40	−59	(22,18)
Helsinki	−3	−27	−57	(22,18)
Israel	−57	−53	−65	(5,16)
Italy	−3	−5	−30	(10,24)
Netherlands Antilles	54	—	−4	(2,13)
New Zealand	100	117	0	(10,11)
Norway	11	—	−24	(2,35)
Sweden	−65	—	−63	(1,28)
Switzerland	−21	−36	−46	(13,28)
Vienna	0	94	85	(15,5)

[a] Comparison of mean offense levels for five-year periods before and after abolition.

[b] Comparison of mean offense levels for maximum length periods before and after abolition.

sistently when long intervals are compared, the idea that deterrence progressively erodes in the years following abolition seems untenable.

C. OFFENSE DETERRENCE

A final comparison addresses the question of whether capital punishment has specific offense deterrence. The breadth of data in the CCDF makes it possible to contrast changes in capital offenses with changes in noncapital crimes. A deterrence theorist could conceivably argue that the patterns in Tables 1 and 2 conceal massive downward trends in crime generally and that capital offense rates might be falling *relatively* more slowly than noncapital offense rates. The key test of offense deterrence, therefore, is whether homicide rate increases or decreases after abolition are greater, in absolute or relative terms, than increases or decreases for noncapital crimes.

Table 3 examines the offense deterrence hypothesis by comparing changes before and after abolition for three time periods—one year, five years, and the maximum interval possible—for homicide and five noncapital offenses. Median offense rate changes for all cases are shown at the bottom of Table 3. Missing percentages indicate that the comparison could not be made for this offense during this particular interval using the data in the CCDF.

In general, the data run strongly counter to the hypothesis of offense deterrence. No matter which time interval is examined, noncapital offense rates show increases larger than the changes observed for homicide rates. While noncapital crime rates increased following abolition—perhaps as a result of demographic or other changes—rates of homicide were stationary or declining. This difference between capital and noncapital rate changes is striking: it is difficult to imagine a result that more clearly contradicts the theory of deterrence. These cross-national findings fail to support the offense deterrence hypothesis and, in fact, provide strategic evidence that the death penalty has no discernible effect on homicide rates.

VIII. SUMMARY AND CONCLUSIONS

If capital punishment is a more effective deterrent than the alternative of life imprisonment, its abolition ought to be followed by homicide rate increases. The evidence examined here fails to support and, indeed, repeatedly contradicts this proposition. In this cross-national sample, abolition was followed more often than not by absolute decreases in

TABLE 3

COMPARISON OF HOMICIDE LEVELS BEFORE AND AFTER ABOLITION USING OTHER OFFENSES AS CONTROL VARIABLES

	ONE YEAR						FIVE YEARS						MAXIMUM YEARS POSSIBLE[a]					
Jurisdiction	Homicide	M[b]	R	A	Ro	T	Homicide	M[b]	R	A	Ro	T	Homicide	M[b]	R	A	Ro	T
Austria[c]	−1%	+24	+12	−2	−9	+17	+32%	+57	+5	+8	+44	+55	+9%	+42	−3	+6	+72	+109
Canada	+38	+107	+32	+20	+42	—	+63	+11	+57	+76	+73	—	+67	+21	+68	+79	+78	—
Denmark	+5	—	0	+5	—	+8	—	—	—	—	—	—	+4	—	+25	—	—	+34
England	−3	+57	+23	+13	+44	+9	+18	+58	+56	+73	+102	+36	+27	+30	+86	+196	+248	—
Finland	−31	−27	+95	−10	−46	−43	−40	−44	+28	—	−80	−70	−59	−63	+102	—	−47	−9
Israel	−57	—	—	+40	−55	−6	−53	—	—	—	−75	+8	−65	—	—	—	−74	+60
Italy	−3	—	—	−10	+31	+4	−5	—	—	—	+32	—	−30	—	—	—	+35	—
Neth Antilles	+54	—	−50	—	+51	+13	—	—	—	—	—	—	−4	—	−20	—	+87	+18
New Zealand	+100	—	+11	+27	−43	−4	+117	—	+16	+46	−46	+7	0	—	—	—	−12	+46
Norway	+11	—	+36	−13	—	−10	—	—	—	—	—	—	−24	—	+100	−7	—	+10
Sweden	−65	—	−58	−33	−36	—	—	—	—	—	—	—	−63	—	+123	−3	+19	—
Switzerland	−21	—	+12	−21	+	+7	+36	—	—	−36	—	−3	−46	—	—	—	—	−15
Helsinki	−3	−35	+1	+3	−52	−42	−27	−42	+23	—	−86	+79	−57	−55	+73	—	−71	−43
Vienna	0	+30	+32	−2	−11	+22	+94	+100	+6	+20	+49	+53	+85	+138	−3	+33	+100	+145
Median	−2%	+27	+12	−2	−11	+6	+7%	+34	+23	+33	+32	+22	−14%	+26	+71	+20	+35	+26

[a] For the number of years included in this comparison, see Table 2.
[b] Crime types: M (Manslaughter), R (Rape), A (Assault), Ro (Robbery), T (Theft).
[c] Indicator Type and Year of Abolition are given in Table 1.

homicide rates. Further, the homicide rates of these nations also decreased relative to the rates of noncapital offenses after abolition. Both of these findings hold true whether comparisons are made for short, medium, or the longest feasible time periods.

This cross-national research design controls for some possible defects in previous studies, including *vicarious deterrence*, the alleged jurisdictional nonspecificity of capital punishment. The results of this comparative analysis contradict general deterrence theory, and also reject specific hypotheses derived from this theory, such as *residual deterrence* and *offense deterrence*. These findings lend new weight to the body of research running counter to deterrence theory:

> In the face of the mounting evidence against any deterrent advantage of the death penalty, proponents increasingly find themselves affirming more idiosyncratic explanations for the effects they presume the death penalty has, but which research has yet to reveal. . . . With each new set of findings their task becomes more arduous and their arguments become less plausible.[53]

As indicated earlier, empirical evidence on deterrent effects is only one participant in the debate over capital punishment. Public attitudes toward crime and criminals, moral sentiments, and changing intellectual fashions also play major roles. The function of scientific inquiry in this debate, while limited, is also important. Research like that presented in this Article addresses deterrence, the most pervasive justification for capital punishment.

Combined with previous research, evidence from this comparative analysis consistently contradicts testable elements of deterrence theory. While there may be some persuasive reasons for capital punishment—such as retribution or economics—the deterrence of potential offenders is not among them. Other justifications for the death penalty can and presumably will be debated, but the deterrence hypothesis must be regarded at this time as scientifically insupportable.

Although this Article is grounded in empirical research, the evidence complements a very different argument, one grounded in logic and philosophy rather than science. Inquiry in this area addresses a question of literal life and death significance. In the United States the populations on death rows grow rapidly, and the debate over the death penalty is anything but abstract. In addition, the deterrence hypothesis is currently under discussion in many courts and state legislatures.

Clearly, the stakes in this debate are unusually high. Precisely for this reason, it seems fair to assume that the burden of proof is upon the restorationists to show that a deterrent effect does exist; unless, of course,

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[53] W. BOWERS, *supra* note 20, at 163.

our society is prepared to shift from deterrence to retribution or economic arguments as justifications for capital punishment. For the same reason, this burden of proof should require unusually exacting standards of evidence. Given the extreme and irrevocable nature of capital punishment, deterrence should be accepted as a justification for the death penalty only if this effect can be shown to be reliable, consistent, and strong. If the deterrent effect is anything less, executions cannot produce anything other than the deaths of the executed.

Empirical support for the deterrence hypothesis, including the evidence presented here, obviously cannot meet this exacting standard. The evidence runs contrary to deterrence theory, and, while more research can of course be done, the mere existence of this consistently contrary evidence demonstrates that the deterrent effect—if one exists at all—is not reliable, consistent, or strong. If the deterrent effect had these robust qualities, the effect surely would have surfaced vividly and repeatedly in these investigations.

The available evidence suggests that no deterrent effect exists, or at the very least, that no deterrent effect exists the strength and size of which could serve as a sufficient justification for capital punishment. Although this conclusion is based on empirical evidence, it is supported by logical and philosophical considerations of the death penalty:

> Capital punishment is certainly among the most extreme or severe deprivations that can be imposed as a punishment. As a result the burden of justifiability falls in a correspondingly heavy fashion upon the defender of *that* kind of punishment . . . . As moral agents we ought, I believe, to require more convincing, if not decisive, reasons of a sort I am unable to bring to light before the decision to punish—especially by a deprivation as total and cataclysmic for the individual as death—can be the morally defensible one for us to make.[54]

The issue of the exceptional burden of proof therefore provides common ground for logical and scientific arguments about the death penalty. A humane and rational society should consider taking human life only if there is overwhelming evidence that this act will save lives by deterring violence. As this comparative study and other research make abundantly clear, there is no overwhelming evidence for deterrence, and the contrary conclusions of existing research suggest that such evidence for deterrence will not be forthcoming. In the absence of thoroughly persuasive evidence, it seems inconceivable that our society would be willing to execute people in pursuit of what is almost certainly a hopeless objective.

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[54] Wasserstrom, *Capital Punishment as Punishment: Some Theoretical Issues and Objections*, 7 MIDWEST STUDIES IN PHILOSOPHY 473, 478, 499 (P. French, T. Vehling, Jr. & H. Wettstein eds. 1982).