kidnaping for ransom or where
[428 US 163]
the victim is harmed, armed robbery,[5] rape, treason, and aircraft hijacking.[6] Ga Code Ann §§ 26-1101, 26-1311, 26-1902, 26-2001, 26-2201, 26-3301 (1972). The capital defendant's guilt or innocence is determined in the traditional manner, either by a trial judge or a jury, in the first stage of a bifurcated trial.

If trial is by jury, the trial judge is required to charge lesser included offenses when they are supported by any view of the evidence. Sims v State, 203 Ga 668, 47 SE2d 862 (1948). See Linder v State, 132 Ga App 624, 625, 208 SE2d 630, 631 (1974). After a verdict, finding, or plea of guilty to a capital crime, a presentence hearing is conducted before whoever made the determination of guilt. The sentencing procedures are essentially the same in both bench and jury trials. At the hearing:

"[T]he judge [or jury] shall hear additional evidence in extenuation, mitigation, and aggravation of punishment, including the record of any prior criminal convictions and pleas of guilty or pleas of nolo contendere of the defendant, or the absence of any prior conviction and pleas: Provided, however, that
[428 US 164]
only such evidence in aggravation as the State has made known to the defendant prior to his trial shall be admissible. The judge [or jury] shall also hear argument by the defendant or his counsel and the prosecuting attorney . . . regarding the punishment to be imposed." § 27-2503 (Supp 1975).

The defendant is accorded substantial latitude as to the types of evidence that he may introduce. See Brown v State, 235 Ga 644, 647–650, 220 SE2d 922, 925–926 (1975).[7] Evidence considered during the guilt stage may be considered during the sentencing stage without being resubmitted. Eberheart v State, 232 Ga 247, 253, 206 SE2d 12, 17 (1974).[8]

In the assessment of the appropriate sentence to be imposed the judge is also required to consider or to include in his instructions to the jury "any mitigating circumstances or aggravating circumstances otherwise authorized by law and any of [10] statutory aggravating circumstances

"(c) A person convicted of murder shall be punished by death or by imprisonment for life."

5. Section 26-1902 (1972) provides:

"A person commits armed robbery when, with intent to commit theft, he takes property of another from the person or the immediate presence of another by use of an offensive weapon. The offense robbery by intimidation shall be a lesser included offense in the offense of armed robbery. A person convicted of armed robbery shall be punished by death or imprisonment for life, or by imprisonment for not less than one nor more than 20 years."

6. These capital felonies currently are defined as they were when Furman was decided. The 1973 amendments to the Georgia statute, however, narrowed the class of crimes potentially punishable by death by eliminating capital perjury. Compare § 26-2401 (Supp 1975) with § 26-2401 (1972).

7. It is not clear whether the 1974 amendments to the Georgia statute were intended to broaden the types of evidence admissible at the presentence hearing. Compare § 27-2503(a) (Supp 1975) with § 27-2534 (1972) (deletion of limitation "subject to the laws of evidence").

8. Essentially the same procedures are followed in the case of a guilty plea. The judge considers the factual basis of the plea, as well as evidence in aggravation and mitigation. See Mitchell v State, 234 Ga 160, 214 SE2d 900 (1975).

which may be supported by the evidence. . . ." § 27-2534.1(b) (Supp 1975). The scope of the nonstatutory aggravating or mitigating circumstances is not delineated in the statute. Before a convicted defendant may be sentenced to death, however, except in cases of treason or aircraft hijacking, the jury, or the trial judge in cases tried without a jury, must find beyond a reasonable doubt one of the 10 aggravating circumstances specified

[428 US 165]

in the statute.[9] The sentence of death may be imposed only if the jury (or judge) finds one of the statutory aggravating circumstances and then elects to

[428 US 166]

impose that sentence. § 26-3102 (Supp 1975). If the verdict is death the jury or judge must specify the aggravating circumstance(s) found. § 27-2534.1(c) (Supp 1975). In jury cases, the trial judge is bound by the jury's recommended sentence. §§ 26-3102, 27-2514 (Supp 1975).

In addition to the conventional appellate process available in all criminal cases, provision is made for spe-

9. The statute provides in part:

"(a) The death penalty may be imposed for the offenses of aircraft hijacking or treason, in any case.

"(b) In all cases of other offenses for which the death penalty may be authorized, the judge shall consider, or he shall include in his instructions to the jury for it to consider, any mitigating circumstances or aggravating circumstances otherwise authorized by law and any of the following statutory aggravating circumstances which may be supported by the evidence:

"(1) The offense of murder, rape, armed robbery, or kidnapping was committed by a person with a prior record of conviction for a capital felony, or the offense of murder was committed by a person who has a substantial history of serious assaultive criminal convictions.

"(2) The offense of murder, rape, armed robbery, or kidnapping was committed while the offender was engaged in the commission of another capital felony, or aggravated battery, or the offense of murder was committed while the offender was engaged in the commission of burglary or arson in the first degree.

"(3) The offender by his act of murder, armed robbery, or kidnapping knowingly created a great risk of death to more than one person in a public place by means of a weapon or device which would normally be hazardous to the lives of more than one person.

"(4) The offender committed the offense of murder for himself or another, for the purpose of receiving money or any other thing of monetary value.

"(5) The murder of a judicial officer, former judicial officer, district attorney or solicitor or former district attorney or solicitor during or because of the exercise of his official duty.

"(6) The offender caused or directed another to commit murder or committed murder as an agent or employee of another person.

"(7) The offense of murder, rape, armed robbery, or kidnapping was outrageously or wantonly vile, horrible or inhuman in that it involved torture, depravity of mind, or an aggravated battery to the victim.

"(8) The offense of murder was committed against any peace officer, corrections employee or fireman while engaged in the performance of his official duties.

"(9) The offense of murder was committed by a person in, or who has escaped from, the lawful custody of a peace officer or place of lawful confinement.

"(10) The murder was committed for the purpose of avoiding, interfering with, or preventing a lawful arrest or custody in a place of lawful confinement, of himself or another.

"(c) The statutory instructions as determined by the trial judge to be warranted by the evidence shall be given in charge and in writing to the jury for its deliberation. The jury, if its verdict be a recommendation of death, shall designate in writing, signed by the foreman of the jury, the aggravating circumstance or circumstances which it found beyond a reasonable doubt. In non-jury cases the judge shall make such designation. Except in cases of treason or aircraft hijacking, unless at least one of the statutory aggravating circumstances enumerated in section 27-2534.1(b) is so found, the death penalty shall not be imposed." § 27-2534.1 (Supp 1975).

The Supreme Court of Georgia, in Arnold v State, 236 Ga 534, 540, 224 SE2d 386, 391 (1976), recently held unconstitutional the portion of the first circumstance encompassing persons who have a "substantial history of serious assaultive criminal convictions" because it did not set "sufficiently 'clear and objective standards.'"

cial expedited direct review by the Supreme Court of Georgia of the appropriateness of imposing the sentence of death in the particular case. The court is directed to consider "the punishment as well as any errors enumerated by way of appeal," and to determine:

"(1) Whether the sentence of death was imposed

[428 US 167]

under the influence of passion, prejudice, or any other arbitrary factor, and

"(2) Whether, in cases other than treason or aircraft hijacking, the evidence supports the jury's or judge's finding of a statutory aggravating circumstance as enumerated in section 27.2534.1(b), and

"(3) Whether the sentence of death is excessive or disproportionate to the penalty imposed in similar cases, considering both the crime and the defendant." § 27-2537 (Supp 1975).

If the court affirms a death sentence, it is required to include in its decision reference to similar cases that it has taken into consideration. § 27-2537(e) (Supp 1975).[10]

A transcript and complete record of the trial, as well as a separate report by the trial judge, are transmitted to the court for its use in reviewing the sentence. § 27-2537(a) (Supp 1975). The report is in the form of a 6½-page questionnaire, designed to elicit information about the defendant, the crime, and the circumstances of the trial. It requires the trial judge to characterize the trial in several ways designed to test for arbitrariness and disproportionality of sentence. Included in the report are responses to detailed questions concerning the quality of the defendant's representation, whether race played a role in the trial, and, whether, in the trial court's judgment, there was any doubt about

[428 US 168]

the defendant's guilt or the appropriateness of the sentence. A copy of the report is served upon defense counsel. Under its special review authority, the court may either affirm the death sentence or remand the case for resentencing. In cases in which the death sentence is affirmed there remains the possibility of executive clemency.[11]

III

We address initially the basic contention that the punishment of death for the crime of murder is, under all circumstances, "cruel and unusual" in violation of the Eighth and Fourteenth Amendments of the Constitution. In Part IV of this opinion, we will consider the sentence of death imposed under the Georgia statutes at issue in this case.

[2a] The Court on a number of occasions has both assumed and asserted the constitutionality of capital punishment. In several cases that assumption provided a necessary foundation for the decision, as the Court

10. The statute requires that the Supreme Court of Georgia obtain and preserve the records of all capital felony cases in which the death penalty was imposed after January 1, 1970, or such earlier date that the court considers appropriate. § 27-2537(f) (Supp 1975). To aid the court in its disposition of these cases the statute further provides for the appointment of a special assistant and authorizes the employment of additional staff members. §§ 27-2537(f)–(h) (Supp 1975).

11. See Ga Const, Art 5, § 1, ¶ 12, Ga Code Ann § 2-3011 (1973); Ga Code Ann §§ 77-501, 77-511, 77-513 (1973 and Supp 1975) (Board of Pardons and Paroles is authorized to commute sentence of death except in cases where Governor refuses to suspend that sentence).

was asked to decide whether a particular method of carrying out a capital sentence would be allowed to stand under the Eighth Amendment.[12] But until Furman v Georgia, 408 US 238, 33 L Ed 2d 346, 92 S Ct 2726 (1972), the Court never confronted squarely the fundamental claim that the punishment of death always, regardless of the enormity of the offense or the procedure followed in imposing the sentence, is cruel and

[428 US 169]

unusual punishment in violation of the Constitution. Although this issue was presented and addressed in Furman, it was not resolved by the Court. Four Justices would have held that capital punishment is not unconstitutional per se;[13] two Justices would have reached the opposite conclusion;[14] and three Justices, while agreeing that the statutes then before the Court were invalid as applied, left open the question whether such punishment may ever be imposed.[15] We now hold that the punishment of death does not invariably violate the Constitution.

A

The history of the prohibition of "cruel and unusual" punishment already has been reviewed at length.[16] The phrase first appeared in the English Bill of Rights of 1689, which was drafted by Parliament at the accession of William and Mary. See Granucci, "Nor Cruel and Unusual Punishments Inflicted:" The Original Meaning, 57 Calif L Rev 839, 852–853 (1969). The English version appears to have been directed against punishments unauthorized by statute and beyond the jurisdiction of the sentencing court, as well as those disproportionate to the offense involved. Id., at 860. The

[428 US 170]

American draftsmen, who adopted the English phrasing in drafting the Eighth Amendment, were primarily concerned, however, with proscribing "tortures" and other "barbarous" methods of punishment. Id., at 842.[17]

12. Louisiana ex rel. Francis v Resweber, 329 US 459, 464, 91 L Ed 422, 67 S Ct 374 (1947); In re Kemmler, 136 US 436, 447, 34 L Ed 519, 10 S Ct 930 (1890); Wilkerson v Utah, 99 US 130, 134–135, 25 L Ed 345 (1879). See also McGautha v California, 402 US 183, 28 L Ed 2d 711, 91 S Ct 1454 (1971); Witherspoon v Illinois, 391 US 510, 20 L Ed 2d 776, 88 S Ct 1770, 46 Ohio Ops 2d 368 (1968); Trop v Dulles, 356 US 86, 100, 2 L Ed 2d 630, 78 S Ct 590 (1958) (plurality opinion).

13. 408 US, at 375, 33 L Ed 2d 346, 92 S Ct 2726 (Burger, C. J., dissenting); id., at 405, 33 L Ed 2d 346, 92 S Ct 2726 (Blackmun, J., dissenting); id., at 414, 33 L Ed 2d 346, 92 S Ct 2726 (Powell, J., dissenting); id., at 465, 33 L Ed 2d 346, 92 S Ct 2726 (Rehnquist, J., dissenting).

14. Id., at 257, 33 L Ed 2d 346, 92 S Ct 2726 (Brennan, J., concurring); id., at 314, 33 L Ed 2d 346, 92 S Ct 2726 (Marshall, J., concurring).

15. Id., at 240, 33 L Ed 2d 346, 92 S Ct 2726 (Douglas, J., concurring); id., at 306, 33 L Ed 2d 346, 92 S Ct 2726 (Stewart, J., concurring); id., at 310, 33 L Ed 2d 346, 92 S Ct 2726 (White, J., concurring).

Since five Justices wrote separately in support of the judgments in Furman, the holding of the Court may be viewed as that position taken by those Members who concurred in the judgments on the narrowest grounds—Mr. Justice Stewart and Mr. Justice White. See n 36, infra.

16. 408 US, at 316–328, 33 L Ed 2d 346, 92 S Ct 2726 (Marshall, J., concurring).

17. This conclusion derives primarily from statements made during the debates in the various state conventions called to ratify the Federal Constitution. For example, Virginia delegate Patrick Henry objected vehemently to the lack of a provision banning "cruel and unusual punishments":

"What has distinguished our ancestors?—That they would not admit of tortures, or cruel and barbarous punishment. But Congress may introduce the practice of the civil law, in preference to that of the common law. They may introduce the practice of France, Spain, and Germany—of torturing, to extort a confession

In the earliest cases raising Eighth Amendment claims, the Court focused on particular methods of execution to determine whether they were too cruel to pass constitutional muster. The constitutionality of the sentence of death itself was not at issue, and the criterion used to evaluate the mode of execution was its similarity to "torture" and other "barbarous" methods. See Wilkerson v Utah, 99 US 130, 136, 25 L Ed 345 (1879) ("[I]t is safe to affirm that punishments of torture . . . and all others in the same line of unnecessary cruelty, are forbidden by that amendment . . ."); In re Kemmler, 136 US 436, 447, 34 L Ed 519, 10 S Ct 930 (1890) ("Punishments are cruel when they involve torture or a lingering death . . ."). See also Louisiana ex rel. Francis v Resweber, 329 US 459, 464, 91 L Ed 422, 67 S Ct 374 (1947) (second attempt at electrocution found not to violate the

[428 US 171]

Eighth Amendment, since failure of initial execution attempt was "an unforeseeable accident" and "[t]here [was] no purpose to inflict unnecessary pain nor any unnecessary pain involved in the proposed execution").

But the Court has not confined the prohibition embodied in the Eighth Amendment to "barbarous" methods that were generally outlawed in the 18th century. Instead, the Amendment has been interpreted in a flexible and dynamic manner. The Court early recognized that "a principle to be vital must be capable of wider application than the mischief which gave it birth." Weems v United States, 217 US 349, 373, 54 L Ed 793, 30 S Ct 544 (1910). Thus the Clause forbidding "cruel and unusual" punishments "is not fastened to the obsolete but may acquire meaning as public opinion becomes enlightened by a humane justice." Id., at 378, 54 L Ed 793, 30 S Ct 544. See also Furman v Georgia, 408 US, at 429–430, 33 L Ed 2d 346, 92 S Ct 2726 (Powell, J., dissenting); Trop v Dulles, 356 US 86, 100–101, 2 L Ed 2d 630, 78 S Ct 590 (1958) (plurality opinion).

In Weems the Court addressed the constitutionality of the Philippine punishment of cadena temporal for the crime of falsifying an official document. That punishment included imprisonment for at least 12 years and one day, in chains, at hard and painful labor; the loss of many basic civil rights; and subjection to lifetime surveillance. Although the Court acknowledged the possibility that "the cruelty of pain" may be present in the challenged punishment, 217 US, at 366, 54 L Ed 793, 30 S Ct 544, it did not rely on that factor, for it rejected the proposition that the Eighth Amendment reaches only punishments that are "inhuman and barbarous, torture and the like." Id., at 368, 54 L Ed 793, 30 S Ct 544. Rather, the Court focused on the lack of proportion between the crime and the offense:

"Such penalties for such offenses amaze those who have formed their conception of the relation of a state

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of the crime." 3 J. Elliot, Debates 447–448 (1863).

A similar objection was made in the Massachusetts convention:

"They are nowhere restrained from inventing the most cruel and unheard-of punishments and annexing them to crimes; and there is no constitutional check on them, but that *racks* and *gibbets* may be amongst the most mild instruments of their discipline." 2 Elliot, supra, at 111.

to even its offending citizens from the practice

[428 US 172]

of the American commonwealths, and believe that it is a precept of justice that punishment for crime should be graduated and proportioned to offense." Id., at 366–367, 54 L Ed 793, 30 S Ct 544.[18]

Later, in Trop v Dulles, supra, 2 L Ed 2d 630, 78 S Ct 590, the Court reviewed the constitutionality of the punishment of denationalization imposed upon a soldier who escaped from an Army stockade and became a deserter for one day. Although the concept of proportionality was not the basis of the holding, the plurality observed in dicta that "[f]ines, imprisonment and even execution may be imposed depending upon the enormity of the crime." 356 US, at 100, 2 L Ed 2d 630, 78 S Ct 590.

The substantive limits imposed by the Eighth Amendment on what can be made criminal and punished were discussed in Robinson v California, 370 US 660, 8 L Ed 2d 758, 82 S Ct 1417 (1962). The Court found unconstitutional a state statute that made the status of being addicted to a narcotic drug a criminal offense. It held, in effect, that it is "cruel and unusual" to impose any punishment at all for the mere status of addiction. The cruelty in the abstract of the actual sentence imposed was irrelevant: "Even one day in prison would be a cruel and unusual punishment for the 'crime' of having a common cold." Id., at 667, 8 L Ed 2d 758, 82 S Ct 1417. Most recently, in Furman v Georgia, supra, 33 L Ed 2d 346, 92 S Ct 2726, three Justices in separate concurring opinions found the Eighth Amendment applicable to procedures employed to select convicted defendants for the sentence of death.

It is clear from the foregoing precedents that the

[428 US 173]

Eighth Amendment has not been regarded as a static concept. As Mr. Chief Justice Warren said, in an oft-quoted phrase, "[t]he Amendment must draw its meaning from the evolving standards of decency that mark the progress of a maturing society." Trop v Dulles, supra, at 101, 2 L Ed 2d 630, 78 S Ct 590. See also Jackson v Bishop, 404 F2d 571, 579 (CA8 1968). Cf. Robinson v California, supra, at 666, 8 L Ed 2d 758, 82 S Ct 1417. Thus, an assessment of contemporary values concerning the infliction of a challenged sanction is relevant to the application of the Eighth Amendment. As we develop below more fully, see infra, at 175–176, 49 L Ed 2d 875–876 this assessment does not call for a subjective judgment. It requires, rather, that we look to objective indicia that reflect the public attitude toward a given sanction.

But our cases also make clear that public perceptions of standards of decency with respect to criminal sanctions are not conclusive. A penalty also must accord with "the dignity of man," which is the "basic concept underlying the Eighth Amendment." Trop v Dulles, supra, at 100, 2 L Ed 2d 630, 78 S Ct 590 (plurality opinion). This means, at least, that the punishment not be "excessive." When a form of punishment in the abstract (in this case, whether capital punishment may ever be imposed as a sanction for murder) rather than in

18. The Court remarked on the fact that the law under review "has come to us from a government of a different form and genius from ours," but it also noted that the punishments it inflicted "would have those bad attributes even if they were found in a Federal enactment and not taken from an alien source." 217 US, at 377, 54 L Ed 793, 30 S Ct 544.

the particular (the propriety of death as a penalty to be applied to a specific defendant for a specific crime) is under consideration, the inquiry into "excessiveness" has two aspects. First, the punishment must not involve the unnecessary and wanton infliction of pain. Furman v Georgia, supra, at 392–393, 33 L Ed 2d 346, 92 S Ct 2726 (Burger, C. J., dissenting). See Wilkerson v Utah, 99 US, at 136, 25 L Ed 345; Weems v United States, supra, at 381, 54 L Ed 793, 30 S Ct 544. Second, the punishment must not be grossly out of proportion to the severity of the crime. Trop v Dulles, supra, at 100, 2 L Ed 2d 630, 78 S Ct 590 (plurality opinion) (dictum); Weems v United States, supra, at 367, 54 L Ed 793, 30 S Ct 544.

[428 US 174]

B

Of course, the requirements of the Eighth Amendment must be applied with an awareness of the limited role to be played by the courts. This does not mean that judges have no role to play, for the Eighth Amendment is a restraint upon the exercise of legislative power.

> "Judicial review, by definition, often involves a conflict between judicial and legislative judgment as to what the Constitution means or requires. In this respect, Eighth Amendment cases come to us in no different posture. It seems conceded by all that the Amendment imposes some obligations on the judiciary to judge the constitutionality of punishment and that there are punishments that the Amendment would bar whether legislatively approved or not." Furman v Georgia, 408 US, at 313–314, 33 L Ed 2d 346, 92 S Ct 2726 (White, J., concurring).

See also id., at 433, 33 L Ed 2d 346, 92 S Ct 2726 (Powell, J., dissenting).[19]

But, while we have an obligation to insure that constitutional

[428 US 175]

bounds are not overreached, we may not act as judges as we might as legislators.

> "Courts are not representative bodies. They are not designed to be a good reflex of a democratic society. Their judgment is best informed, and therefore most dependable, within narrow limits. Their essential quality is detachment, founded on independence. History teaches that the independence of the judiciary is jeopardized when courts become embroiled in the passions of the day and assume primary responsibility in choosing between competing political, economic and social pressures." Dennis v United States, 341 US 494, 525, 95 L Ed 1137, 71 S Ct 857 (1951) (Frank-

19. Although legislative measures adopted by the people's chosen representatives provide one important means of ascertaining contemporary values, it is evident that legislative judgments alone cannot be determinative of Eighth Amendment standards since that Amendment was intended to safeguard individuals from the abuse of legislative power. See Weems v United States, 217 US 349, 371–373, 54 L Ed 793, 30 S Ct 544 (1910); Furman v Georgia, 408 US, at 258–269, 33 L Ed 2d 346, 92 S Ct 2726 (Brennan, J., concurring). Robinson v California, 370 US 660, 8 L Ed 2d 758, 82 S Ct 1417 (1962), illustrates the proposition that penal laws enacted by state legislatures may violate the Eighth Amendment because "in the light of contemporary human knowledge" they "would doubtless be universally thought to be an infliction of cruel and unusual punishment." Id., at 666, 8 L Ed 2d 758, 82 S Ct 1417. At the time of Robinson nine States in addition to California had criminal laws that punished addiction similar to the law declared unconstitutional in Robinson. See Brief for Appellant in Robinson v California, No. 554, OT 1961, p 15.

furter, J., concurring in affirmance of judgment).[20]

Therefore, in assessing a punishment selected by a democratically elected legislature against the constitutional measure, we presume its validity. We may not require the legislature to select the least severe penalty possible so long as the penalty selected is not cruelly inhumane or disproportionate to the crime involved. And a heavy burden rests on those who would attack the judgment of the representatives of the people.

This is true in part because the constitutional test is intertwined with an assessment of contemporary standards and the legislative judgment weighs heavily in ascertaining such standards. "[I]n a democratic society legislatures, not courts, are constituted to respond to the will and consequently the moral values of the people."

[428 US 176]

Furman v Georgia, supra, at 383, 33 L Ed 2d 346, 92 S Ct 2726 (Burger, C.J., dissenting). The deference we owe to the decisions of the state legislatures under our federal system, id., at 465–470, 33 L Ed 2d 346, 92 S Ct 2726 (Rehnquist, J., dissenting), is enhanced where the specification of punishments is concerned, for "these are peculiarly questions of legislative policy." Gore v United States, 357 US 386, 393, 2 L Ed 2d 1405, 78 S Ct 1280 (1958). Cf. Robinson v California, 370 US, at 664–665, 8 L Ed 2d 758, 82 S Ct 1417; Trop v Dulles, 356 US, at 103, 2 L Ed 2d 630, 78 S Ct 590 (plurality opinion); In re Kemmler, 136 US, at 447, 34 L Ed 519, 10 S Ct 930. Caution is necessary lest this Court become, "under the aegis of the Cruel and Unusual Punishment Clause, the ultimate arbiter of the standards of criminal responsibility . . . throughout the country." Powell v Texas, 392 US 514, 533, 20 L Ed 2d 1254, 88 S Ct 2145 (1968). A decision that a given punishment is impermissible under the Eighth Amendment cannot be reversed short of a constitutional amendment. The ability of the people to express their preference through the normal democratic processes, as well as through ballot referenda, is shut off. Revisions cannot be made in the light of further experience. See Furman v Georgia, supra, at 461–462, 33 L Ed 2d 346, 92 S Ct 2726 (Powell, J., dissenting).

C

In the discussion to this point we have sought to identify the principles and considerations that guide a court in addressing an Eighth Amendment claim. We now consider specifically whether the sentence of death for the crime of murder is a per se violation of the Eighth and Fourteenth Amendments to the Constitution. We note first that history and precedent strongly support a negative answer to this question.

The imposition of the death penalty for the crime of murder has a long history of acceptance both in the United States and in England. The common-law rule

[428 US 177]

imposed a mandatory death sentence on all convicted

20. See also Furman v Georgia, supra, at 411, 33 L Ed 2d 346, 92 S Ct 2726 (Blackmun, J., dissenting):

"We should not allow our personal preferences as to the wisdom of legislative and congressional action, or our distaste for such action, to guide our judicial decision in cases such as these. The temptations to cross that policy line are very great."

murderers. McGautha v California, 402 US 183, 197–198, 28 L Ed 2d 711, 91 S Ct 1454 (1971). And the penalty continued to be used into the 20th century by most American States, although the breadth of the common-law rule was diminished, initially by narrowing the class of murders to be punished by death and subsequently by widespread adoption of laws expressly granting juries the discretion to recommend mercy. Id., at 199–200, 28 L Ed 2d 711, 91 S Ct 1454. See Woodson v North Carolina, post, at 289–292, 49 L Ed 2d 944, 96 S Ct 2978.

It is apparent from the text of the Constitution itself that the existence of capital punishment was accepted by the Framers. At the time the Eighth Amendment was ratified, capital punishment was a common sanction in every State. Indeed, the First Congress of the United States enacted legislation providing death as the penalty for specified crimes. C 9, 1 Stat 112 (1790). The Fifth Amendment, adopted at the same time as the Eighth, contemplated the continued existence of the capital sanction by imposing certain limits on the prosecution of capital cases:

> "No person shall be held to answer for a capital, or otherwise infamous crime, unless on a presentment or indictment of a Grand Jury . . . ; nor shall any person be subject for the same offense to be twice put in jeopardy of life or limb; . . . nor be deprived of life, liberty, or property, without due process of law . . ."

And the Fourteenth Amendment, adopted over three-quarters of a century later, similarly contemplates the existence of the capital sanction in providing that no State shall deprive any person of "life, liberty, or property" without due process of law.

For nearly two centuries, this Court, repeatedly and

[428 US 178]

often expressly, has recognized that capital punishment is not invalid per se. In Wilkerson v Utah, 99 US, at 134–135, 25 L Ed 345, where the Court found no constitutional violation in inflicting death by public shooting, it said:

> "Cruel and unusual punishments are forbidden by the Constitution, but the authorities referred to are quite sufficient to show that the punishment of shooting as a mode of executing the death penalty for the crime of murder in the first degree is not included in that category, within the meaning of the eighth amendment."

Rejecting the contention that death by electrocution was "cruel and unusual," the Court in In re Kemmler, 136 US, at 447, 34 L Ed 519, 10 S Ct 930, reiterated:

> "[T]he punishment of death is not cruel, within the meaning of that word as used in the Constitution. It implies there something inhuman and barbarous, something more than the mere extinguishment of life."

Again, in Louisiana ex rel. Francis v Resweber, 329 US, at 464, 91 L Ed 422, 67 S Ct 374, the Court remarked: "The cruelty against which the Constitution protects a convicted man is cruelty inherent in the method of punishment, not the necessary suffering involved in any method employed to extinguish life humanely." And in Trop v Dulles, 356 US, at 99, 2 L Ed 2d 630, 78 S Ct 590, Mr. Chief Justice Warren, for himself and three other Justices, wrote:

> "Whatever the arguments may be against capital punishment, both

on moral grounds and in terms of accomplishing the purposes of punishment . . . the death penalty has been employed throughout our history, and, in a day when it is still widely accepted, it cannot be said to violate the constitutional concept of cruelty."

[428 US 179]

Four years ago, the petitioners in Furman and its companion cases predicated their argument primarily upon the asserted proposition that standards of decency had evolved to the point where capital punishment no longer could be tolerated. The petitioners in those cases said, in effect, that the evolutionary process had come to an end, and that standards of decency required that the Eighth Amendment be construed finally as prohibiting capital punishment for any crime regardless of its depravity and impact on society. This view was accepted by two Justices.[21] Three other Justices were unwilling to go so far; focusing on the procedures by which convicted defendants were selected for the death penalty rather than on the actual punishment inflicted, they joined in the conclusion that the statutes before the Court were constitutionally invalid.[22]

The petitioners in the capital cases before the Court today renew the "standards of decency" argument, but developments during the four years since Furman have undercut substantially the assumptions upon which their argument rested. Despite the continuing debate, dating back to the 19th century, over the morality and utility of capital punishment, it is now evident that a large proportion of American society continues to regard it as an appropriate and necessary criminal sanction.

The most marked indication of society's endorsement of the death penalty for murder is the legislative response to Furman. The legislatures of at least 35 States[23] have enacted new statutes that provide for the

[428 US 180]

death penalty for at least some crimes that result in the death of another person. And the Congress of the United

21. See concurring opinions of Mr. Justice Brennan and Mr. Justice Marshall, 408 US, at 257 and 314, 33 L Ed 2d 346, 92 S Ct 2726.

22. See concurring opinions of Mr. Justice Douglas, Mr. Justice Stewart, and Mr. Justice White, 408 US, at 240, 306, and 310, 33 L Ed 2d 346, 92 S Ct 2726.

23. Ala HB 212, §§ 2-4, 6-7 (1975); Ariz Rev Stat Ann §§ 13-452 to 13-454 (Supp 1973); Ark Stat Ann § 41-1706 (Supp 1975); Cal Penal Code §§ 190.1, 209, 219 (Supp 1976); Colo Laws 1974, c 52, § 4; Conn Gen Stat Rev §§ 53a-25, 53a-35(b), 53a-46a, 53a-54b (1975); Del Code Ann tit 11, § 4209 (Supp 1975); Fla Stat Ann §§ 782.04, 921.141 (Supp 1975–1976); Ga Code Ann §§ 26-3102, 27-2528, 27-2534.1, 27-2537 (Supp 1975); Idaho Code § 18-4004 (Supp 1975); Ill Ann Stat c 38, §§ 9-1, 1005-5-3, 1005-8-1A (Supp 1976–1977); Ind Stat Ann § 35-13-4-1 (1975); Ky Rev Stat Ann § 507.020 (1975); La Rev Stat Ann § 14:30 (Supp 1976); Md Ann Code, art 27, § 413 (Supp 1975); Miss Code Ann §§ 97-3-19, 97-3-21, 97-25-55, 99-17-20 (Supp 1975); Mo Ann Stat § 559.009, 559.005 (Supp 1976); Mont Rev Codes Ann § 94-5-105 (Spec Crim Code Supp 1976); Neb Rev Stat §§ 28-401, 29-2521 to 29-2523 (1975); Nev Rev Stat § 200.030 (1973); NH Rev Stat Ann § 630:1 (1974); NM Stat Ann § 40A-29-2 (Supp 1975); NY Penal Law § 60.06 (1975); NC Gen Stat § 14-17 (Supp 1975); Ohio Rev Code Ann §§ 2929.02-2929.04 (1975); Okla Stat Ann tit 21, § 701.1-701.3 (Supp 1975–1976); Pa Laws 1974, Act No. 46; RI Gen Laws Ann § 11-23-2 (Supp 1975); SC Code Ann § 16-52 (Supp 1975); Tenn Code Ann §§ 39-2402, 39-2406 (1975); Tex Penal Code Ann § 19.03(a) (1974); Utah Code Ann §§ 76-3-206, 76-3-207, 76-5-202 (Supp 1975); Va Code Ann § 18.2-10, 18.2-31 (1976); Wash Rev Code §§ 9A.32.045, 9A.32.046 (Supp 1975); Wyo Stat Ann § 6-54 (Supp 1975).

States, in 1974, enacted a statute providing the death penalty for aircraft piracy that results in death.[24] These recently adopted statutes have attempted to address the concerns expressed by the Court in Furman primarily (i) by specifying the factors to be weighed and the procedures to be followed in deciding when to impose a capital sentence, or (ii) by making the death penalty mandatory for specified crimes. But all of the post-Furman statutes make clear that capital punishment

[428 US 181]

itself has not been rejected by the elected representatives of the people.

In the only statewide referendum occurring since Furman and brought to our attention, the people of California adopted a constitutional amendment that authorized capital punishment, in effect negating a prior ruling by the Supreme Court of California in People v Anderson, 6 Cal 3d 628, 493 P2d 880, cert denied, 406 US 958, 32 L Ed 2d 344, 92 S Ct 2060 (1972), that the death penalty violated the California Constitution.[25]

The jury also is a significant and reliable objective index of contemporary values because it is so directly involved. See Furman v Georgia, 408 US, at 439–440, 33 L Ed 2d 346, 92 S Ct 2726 (Powell, J., dissenting). See generally Powell, Jury Trial of Crimes, 23 Wash & Lee L Rev 1 (1966). The Court has said that "one of the most important functions any jury can perform in making . . . a selection [between life imprisonment and death for a defendant convicted in a capital case] is to maintain a link between contemporary community values and the penal system." Witherspoon v Illinois, 391 US 510, 519 n 15, 20 L Ed 2d 776, 88 S Ct 1770, 46 Ohio Ops 2d 368 (1968). It may be true that evolving standards have influenced juries in

[428 US 182]

recent decades to be more discriminating in imposing the sentence of death.[26] But the relative infrequency of jury verdicts imposing the death sentence does not indicate rejection of capital punishment per se. Rather, the reluctance of juries in many cases to impose the sentence may well reflect the humane feeling that this most irrevocable of sanctions should be reserved for a small number of extreme cases. See Furman v Georgia, supra, at 388, 33 L Ed 2d 346, 92 S Ct 2726 (Burger,

24. Antihijacking Act of 1974, 49 USC §§ 1472(i), (n) (1970 ed Supp IV) [49 USCS §§ 1472(i), (n).]

25. In 1968, the people of Massachusetts were asked "Shall the commonwealth . . . retain the death penalty for crime?" A substantial majority of the ballots cast answered "Yes." Of 2,348,005 ballots cast, 1,159,348 voted "Yes," 730,649 voted "No," and 458,008 were blank. See Commonwealth v O'Neal, —— Mass. ——, ——, and 339 NE2d 676, 708 and n 1 (1975) (Reardon, J., dissenting). A December 1972 Gallup poll indicated that 57% of the people favored the death penalty while a June 1973 Harris survey showed support of 59%. Vidmar & Ellsworth, Public Opinion and the Death Penalty, 26 Stan L Rev 1245, 1249 n 22 (1974). In a December 1970 referendum, the voters of Illinois also rejected the abolition of capital punishment by 1,218,791 votes to 676,302 votes. Report of the Governor's Study Commission on Capital Punishment 43 (Pa 1973).

26. The number of prisoners who received death sentences in the years from 1961 to 1972 varied from a high of 140 in 1961 to a low of 75 in 1972, with wide fluctuations in the intervening years: 103 in 1962; 93 in 1963; 106 in 1964; 86 in 1965; 118 in 1966; 85 in 1967; 102 in 1968; 97 in 1969; 127 in 1970; and 104 in 1971. Department of Justice, National Prisoner Statistics Bulletin, Capital Punishment 1971–1972, p 20 (Dec. 1974). It has been estimated that before Furman less than 20% of those convicted of murder were sentenced to death in those States that authorized capital punishment. See Woodson v North Carolina, post, at 295–296, n 31, 49 L Ed 2d 944, 96 S Ct 2978.

C.J., dissenting). Indeed, the actions of juries in many States since Furman is fully compatible with the legislative judgments, reflected in the new statutes, as to the continued utility and necessity of capital punishment in appropriate cases. At the close of 1974 at least 254 persons had been sentenced to death since Furman,[27] and by the end of March 1976, more than 460 persons were subject to death sentences.

As we have seen, however, the Eighth Amendment demands more than that a challenged punishment be acceptable to contemporary society. The Court also must ask whether it comports with the basic concept of human dignity at the core of the Amendment. Trop v Dulles, 356 US, at 100, 2 L Ed 2d 630, 78 S Ct 590. Although we cannot "invalidate a category of penalties because we deem less severe penalties adequate to serve the ends of penology," Furman

[428 US 183]

v Georgia, supra, at 451. 33 L Ed 2d 346, 92 S Ct 2726 (Powell, J., dissenting), the sanction imposed cannot be so totally without penological justification that it results in the gratuitous infliction of suffering. Cf. Wilkerson v Utah, 99 US, at 135–136, 25 L Ed 345; In re Kemmler, 136 US, at 447, 34 L Ed 519, 10 S Ct 930.

The death penalty is said to serve two principal social purposes: retribution and deterrence of capital crimes by prospective offenders.[28]

In part, capital punishment is an expression of society's moral outrage at particularly offensive conduct.[29] This function may be unappealing to many, but it is essential in an ordered society that asks its citizens to rely on legal processes rather than self-help to vindicate their wrongs.

> "The instinct for retribution is part of the nature of man, and channeling that instinct in the administration of criminal justice serves an important purpose in promoting the stability of a society governed by law. When people begin to believe that organized society is unwilling or unable to impose upon criminal offenders the punishment they 'deserve,' then there are sown the seeds of anarchy—of self-help, vigilante justice, and lynch law." Furman v Georgia, supra, at 308, 33 L Ed 2d 346, 92 S Ct 2726 (Stewart, J., concurring).

"Retribution is no longer the dominant objective of the criminal law," Williams v New York, 337 US 241, 248, 93 L Ed 1337, 69 S Ct 1079 (1949), but neither is it a forbidden objective nor one inconsistent with our respect for the dignity of men.

[428 US 184]

Furman v Georgia, 408 US, at 394–395, 33 L Ed 2d 346, 92 S Ct 2726 (Burger, C.J., dissenting); id., at 452–454, 33 L Ed 2d 346, 92 S Ct 2726 (Powell, J., dissenting); Powell v Texas, 392 US, at 531, 535–536, 20 L Ed 2d 1254, 88 S Ct 2145. Indeed, the decision that capital punishment may be the appropriate sanction in extreme cases is an expression of the community's belief

27. Department of Justice, national Prisoner Statistic Bulletin, Capital Punishment 1974, pp 1, 26–27 (Nov. 1975).

28. Another purpose that has been discussed is the incapacitation of dangerous criminals and the consequent prevention of crimes that they may otherwise commit in the future. See People v Anderson, 6 Cal 3d 628, 651, 493 P2d 880, 896, cert denied, 406 US 958, 32 L Ed 2d 344, 92 S Ct 2060 (1972); Commonwealth v O'Neal, supra, at ——, 339 NE2d, at 685–686.

29. See H. Packer, Limits of the Criminal Sanction 43–44 (1968).

that certain crimes are themselves so grievous an affront to humanity that the only adequate response may be the penalty of death.[30]

Statistical attempts to evaluate the worth of the death penalty as a deterrent to crimes by potential offenders have occasioned a great deal of debate.[31] The results

[428 US 185]

simply have been inconclusive. As one opponent of capital punishment has said:

> "[A]fter all possible inquiry, including the probing of all possible methods of inquiry, we do not know, and for systematic and easily visible reasons cannot know, what the truth about this 'deterrent' effect may be . . . .
>
> "The inescapable flaw is . . . that social conditions in any state are not constant through time, and that social conditions are not the same in any two states. If an effect were observed (and the observed effects, one way or another, are not large) then one could not at all tell whether any of this effect is attributable to the presence or absence of capital punishment. A 'scientific'—that is to say, a soundly based—conclusion is simply impossible, and no methodological path out of this tangle suggests itself." C. Black, Capital Punishment: The Inevitability of Caprice and Mistake 25–26 (1974).

Although some of the studies suggest that the death penalty may not function as a significantly greater deterrent than lesser penalties,[32] there is no convincing empirical evidence either supporting or refuting this view. We may nevertheless assume safely that there are murderers, such as those who act in passion, for whom the threat of death has little or no deterrent effect. But for many others, the death penalty undoubtedly is a significant

[428 US 186]

deterrent. There are carefully contemplated murders, such as murder for hire, where the possible penalty of death may well enter into the cold calculus that precedes the

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30. Lord Justice Denning, Master of the Rolls of the Court of Appeal in England, spoke to this effect before the British Royal Commission on Capital Punishment:
"Punishment is the way in which society expresses its denunciation of wrong doing: and, in order to maintain respect for law, it is essential that the punishment inflicted for grave crimes should adequately reflect the revulsion felt by the great majority of citizens for them. It is a mistake to consider the objects of punishment as being deterrent or reformative or preventive and nothing else. . . . The truth is that some crimes are so outrageous that society insists on adequate punishment, because the wrong-doer deserves it, irrespective of whether it is a deterrent or not." Royal Commission on Capital Punishment, Minutes of Evidence, Dec. 1, 1949, p 207 (1950).

A contemporary writer has noted more recently that opposition to capital punishment "has much more appeal when the discussion is merely academic than when the community is confronted with a crime, or a series of crimes, so gross, so heinous, so cold-blooded that anything short of death seems an inadequate response." Raspberry, Death Sentence, The Washington Post, Mar. 12, 1976, p A27, cols 5–6.

31. See, e.g., Peck, The Deterrent Effect of Capital Punishment: Ehrlich and His Critics, 85 Yale LJ 359 (1976); Baldus & Cole, A Comparison of the Work of Thorsten Sellin and Isaac Ehrlich on the Deterrent Effect of Capital Punishment, 85 Yale LJ 170 (1975); Bowers & Pierce, The Illusion of Deterrence in Isaac Ehrlich's Research on Capital Punishment, 85 Yale LJ 187 (1975); Ehrlich, The Deterrent Effect of Capital Punishment: A Question of Life and Death, 65 Am Econ Rev 397 (June 1975); Hook, The Death Sentence, in The Death Penalty in America 146 (H. Bedau ed 1967); T. Sellin, The Death Penalty, A Report for the Model Penal Code Project of the American Law Institute (1959).

32. See, e.g., The Death Penalty in America supra, at 258–332; Report of the Royal Commission on Capital Punishment, 1949–1953, Cmd 8932.

decision to act.[33] And there are some categories of murder, such as murder by a life prisoner, where other sanctions may not be adequate.[34]

The value of capital punishment as a deterrent of crime is a complex factual issue the resolution of which properly rests with the legislatures, which can evaluate the results of statistical studies in terms of their own local conditions and with a flexibility of approach that is not available to the courts. Furman v Georgia, supra, at 403–405, 33 L Ed 2d 346, 92 S Ct 2726 (Burger, C. J., dissenting). Indeed, many of the post-Furman statutes reflect just such a responsible effort to define those crimes and those criminals for which capital punishment is most probably an effective deterrent.

In sum, we cannot say that the judgment of the Georgia legislature that capital punishment may be necessary in some cases is clearly wrong. Considerations of federalism, as well as respect for the ability of a legislature

[428 US 187]

to evaluate, in terms of its particular state the moral consensus concerning the death penalty and its social utility as a sanction, require us to conclude, in the absence of more convincing evidence, that the infliction of death as a punishment for murder is not without justification and thus is not unconstitutionally severe.

Finally, we must consider whether the punishment of death is disproportionate in relation to the crime for which it is imposed. There is no question that death as a punishment is unique in its severity and irrevocability. Furman v Georgia, 408 US, at 286–291, 33 L Ed 2d 346, 92 S Ct 2726 (Brennan, J., concurring); id., at 306, 33 L Ed 2d 346, 92 S Ct 2726 (Stewart, J., concurring). When a defendant's life is at stake, the Court has been particularly sensitive to insure that every safeguard is observed. Powell v Alabama, 287 US 45, 71, 77 L Ed 158, 53 S Ct 55, 84 ALR 527 (1932); Reid v Covert, 354 US 1, 77, 1 L Ed 2d 1148, 77 S Ct 1222 (1957) (Harlan, J., concurring in result). But we are concerned here only with the imposition of capital punishment for the crime of murder, and when a life has been taken deliberately by the offender,[35] we cannot say that the punishment is invariably disproportionate to the crime. It is an extreme sanction, suitable to the most extreme of crimes.

We hold that the death penalty is

33. Other types of calculated murders, apparently occurring with increasing frequency, include the use of bombs or other means of indiscriminate killings, the extortion murder of hostages or kidnap victims, and the execution-style killing of witnesses to a crime.

34. We have been shown no statistics breaking down the total number of murders into the categories described above. The overall trend in the number of murders committed in the nation, however, has been upward for some time. In 1964, reported murders totaled an estimated 9,250. During the ensuing decade, the number reported increased 123%, until it totaled approximately 20,600 in 1974. In 1972, the year Furman was announced, the total estimated was 18,520. Despite a fractional decrease in 1975 as compared with 1974, the number of murders increased in the three years immediately following Furman to approximately 20,400, an increase of almost 10%. See FBI, Uniform Crime Reports, for 1964, 1972, 1974 and 1975 Preliminary Annual Release.

35. We do not address here the question whether the taking of the criminal's life is a proportionate sanction where no victim has been deprived of life—for example, when capital punishment is imposed for rape, kidnaping, or armed robbery that does not result in the death of any human being.

not a form of punishment that may never be imposed, regardless of the circumstances of the offense, regardless of the character of the offender, and regardless of the procedure followed in reaching the decision to impose it.

IV

We now consider whether Georgia may impose the death penalty on the petitioner in this case.

[428 US 188]

A

While Furman did not hold that the infliction of the death penalty per se violates the Constitution's ban on cruel and unusual punishments, it did recognize that the penalty of death is different in kind from any other punishment imposed under our system of criminal justice. Because of the uniqueness of the death penalty, Furman held that it could not be imposed under sentencing procedures that created a substantial risk that it would be inflicted in an arbitrary and capricious manner. Mr. Justice White concluded that "the death penalty is exacted with great infrequency even for the most atrocious crimes and . . . there is no meaningful basis for distinguishing the few cases in which it is imposed from the many cases in which it is not." 408 US, at 313, 33 L Ed 2d 346, 92 S Ct 2726 (concurring). Indeed, the death sentences examined by the Court in Furman were "cruel and unusual in the same way that being struck by lightning is cruel and unusual. For, of all the people convicted of [capital crimes], many just as reprehensible as these, the petitioners [in Furman were] among a capriciously selected random handful upon whom the sentence of death has in fact been imposed. . . . [T]he Eighth and Fourteenth Amendments cannot tolerate the infliction of a sentence of death under legal systems that permit this unique penalty to be so wantonly and so freakishly imposed." Id., at 309–310, 33 L Ed 2d 346, 92 S Ct 2726. (Stewart, J., concurring).[36]

[428 US 189]

Furman mandates that where discretion is afforded a sentencing body on a matter so grave as the determination of whether a human life should be taken or spared, that discretion must be suitably directed and limited so as to minimize the risk of wholly arbitrary and capricious action.

It is certainly not a novel proposition that discretion in the area of sentencing be exercised in an informed manner. We have long recognized that "[f]or the determination of sentences, justice generally requires . . . that there be taken into account the circumstances of the offense together with the character and propensities of the offender." Pennsylvania ex rel. Sullivan v Ashe, 302 US 51, 55, 82 L Ed 43, 58 S Ct 59 (1937). See also Williams v Oklahoma, 358 US 576, 585, 3 L Ed 2d 516, 79 S Ct 421 (1959); Williams v New York, 337 US, at 247, 93 L Ed

36. This view was expressed by other Members of the Court who concurred in the judgments. See 408 US, at 255–257, 33 L Ed 2d 346, 92 S Ct 2726 (Douglas, J.); id., at 291–295, 33 L Ed 2d 346, 92 S Ct 2726 (Brennan, J.). The dissenters viewed this concern as the basis for the Furman decision: "The decisive grievance of the opinions . . . is that the present system of discretionary sentencing in capital cases has failed to produce even-handed justice; . . . that the selection process has followed no rational pattern." Id., at 398–399, 33 L Ed 2d 346, 92 S Ct 2726 (Burger, C. J., dissenting).

1337, 69 S Ct 1079.[37] Otherwise, "the system cannot function in a consistent and a rational manner." American Bar Association Project on Standards for Criminal Justice, Sentencing Alternatives and Procedures § 4.1(a), Commentary, p 201 (Approved Draft 1968). See also President's Commission on Law Enforcement and Administration of Justice, The Challenge of Crime in a Free Society 144 (1967); ALI Model Penal Code § 7.07 Comment 1, pp 52–53 (Tent Draft No. 2, 1954).[38]

[428 US 190]

The cited studies assumed that the trial judge would be the sentencing authority. If an experienced trial judge, who daily faces the difficult task of imposing sentences, has a vital need for accurate information about a defendant and the crime he committed in order to be able to impose a rational sentence in the typical criminal case, then accurate sentencing information is an indispensable prerequisite to a reasoned determination of whether a defendant shall live or die by a jury of people who may never before have made a sentencing decision.

Jury sentencing has been considered desirable in capital cases in order "to maintain a link between contemporary community values and the penal system—a link without which the determination of punishment could hardly reflect 'the evolving standards of decency that mark the progress of a maturing society.' "[39] But it creates special problems. Much of the information that is relevant to the sentencing decision may have no relevance to the question of guilt, or may even be extremely prejudicial to a fair determination of that question.[40] This problem, however, is scarcely insurmountable. Those who have studied the question suggest that a bifurcated procedure—one in which the

[428 US 191]

question of sentence is not considered until the determination of guilt has been made—is the best answer. The drafters of the Model Penal Code concluded that if a unitary proceeding is used

> "the determination of the punishment must be based on less than all the evidence that has a bearing on that issue, such for example as a previous criminal record of the accused or evidence must be admitted on the ground that it is relevant to sentence, though it would be excluded as irrelevant or preju-

37. The Federal Rules of Criminal Procedure require as a matter of course that a presentence report containing information about a defendant's background be prepared for use by the sentencing judge. Fed Rule Crim Proc 32(c). The importance of obtaining accurate sentencing information is underscored by the Rule's direction to the sentencing court to "afford the defendant or his counsel an opportunity to comment [on the report] and, at the discretion of the court, to introduce testimony or other information relating to any alleged factual inaccuracy contained in the presentence report." Rule 32(c)(3)(A).

38. Indeed, we hold elsewhere today that in capital cases it is constitutionally required that the sentencing authority have information sufficient to enable it to consider the character and individual circumstances of a defendant prior to imposition of a death sentence. See Woodson v North Carolina, post, at 303–305, 49 L Ed 2d 944, 96 S Ct 2978.

39. Witherspoon v Illinois, 391 US, at 519 n 15, 20 L Ed 2d 776, 88 S Ct 1770, 46 Ohio Ops 2d 368, quoting Trop v Dulles, 356 US, at 101, 2 L Ed 2d 630, 78 S Ct 590 (plurality opinion). See also Report of the Royal Commission on Capital Punishment, 1949–1953, Cmd 8932, ¶ 571.

40. In other situations this Court has concluded that a jury cannot be expected to consider certain evidence before it on one issue, but not another. See, e.g., Bruton v United States, 391 US 123, 20 L Ed 2d 476, 88 S Ct 1620 (1968); Jackson v Denno, 378 US 368, 12 L Ed 2d 908, 84 S Ct 1774, 28 Ohio Ops 2d 177, 1 ALR3d 1205 (1964).

dicial with respect to guilt or innocence alone. Trial lawyers understandably have little confidence in a solution that admits the evidence and trusts to an instruction to the jury that it should be considered only in determining the penalty and disregarded in assessing guilt.

". . . The obvious solution . . . is to bifurcate the proceeding, abiding strictly by the rules of evidence until and unless there is a conviction, but once guilt has been determined opening the record to the further information that is relevant to sentence. This is the analogue of the procedure in the ordinary case when capital punishment is not in issue; the court conducts a separate inquiry before imposing sentence." ALI, Model Penal Code § 201.6, Comment 5, pp 74–75 (Tent Draft No. 9, 1959).

See also Spencer v Texas, 385 US 554, 567–569, 17 L Ed 2d 606, 87 S Ct 648 (1967); Report of the Royal Commission on Capital Punishment, 1949–1953, Cmd 8932, ¶¶ 555, 574; Knowlton, Problems of Jury Discretion in Capital Cases, 101 U Pa L Rev 1099, 1135–1136 (1953). When a human life is at stake and when the jury must have information prejudicial to the question of guilt but relevant to the question of penalty in order to impose a rational sentence, a bifurcated

[428 US 192]

system is more likely to ensure elimination of the constitutional deficiencies identified in Furman.[41]

But the provision of relevant information under fair procedural rules is not alone sufficient to guarantee that the information will be properly used in the imposition of punishment, especially if sentencing is performed by a jury. Since the members of a jury will have had little, if any, previous experience in sentencing, they are unlikely to be skilled in dealing with the information they are given. See American Bar Association Project on Standards for Criminal Justice Sentencing Alternatives and Procedures, § 1.1(b), Commentary, pp 46–47 (approved Draft 1968); President's Commission on Law Enforcement and Administration of Justice: The Challenge of Crime in a Free Society, Task Force Report: The Courts 26 (1967). To the extent that this problem is inherent in jury sentencing, it may not be totally correctible. It seems clear, however, that the problem will be alleviated if the jury is given guidance regarding the factors about the crime and the defendant that the State, representing organized society, deems particularly relevant to the sentencing decision.

The idea that a jury should be given guidance in its

[428 US 193]

decisionmaking is also hardly a novel proposition. Juries are invariably given careful instructions on the law and how to apply it before they are authorized to decide the merits of a lawsuit. It would be virtually unthinkable to follow any other course in a legal system that has traditionally operated by following prior precedents and

41. In United States v Jackson, 390 US 570, 20 L Ed 2d 138, 88 S Ct 1209 (1968), the Court considered a statute that provided that if a defendant pleaded guilty, the maximum penalty would be life imprisonment, but if a defendant chose to go to trial, the maximum penalty upon conviction was death. In holding that the statute was constitutionally invalid, the Court noted:

"The inevitable effect of any such provision is, of course, to discourage assertion of the Fifth Amendment right not to plead guilty and to deter exercise of the Sixth Amendment right to demand a jury trial. If the provision had no other purpose or effect than to chill the assertion of constitutional rights by penalizing those who choose to exercise them, then it would be patently unconstitutional." Id. at 581, 20 L Ed 2d 138, 88 S Ct 1209.

fixed rules of law.[42] See Gasoline Products Co. v Champlin Refining Co. 283 US 494, 498, 75 L Ed 1188, 51 S Ct 513 (1931); Fed Rul Civ Proc 51. When erroneous instructions are given, retrial is often required. It is quite simply a hallmark of our legal system that juries be carefully and adequately guided in their deliberations.

While some have suggested that standards to guide a capital jury's sentencing deliberations are impossible to formulate,[43] the fact is that such standards have been developed. When the drafters of the Model Penal Code faced this problem, they concluded "that it is within the realm of possibility to point to the main circumstances of aggravation and of mitigation that should be weighed *and weighed against each other* when they are presented in a concrete case." ALI, Model Penal Code § 201.6, Comment 3, p 71 (Tent Draft No. 9, 1959) (emphasis in original).[44] While such standards are by

[428 US 194]

necessity somewhat general, they do provide guidance to the sentencing authority and thereby reduce the likelihood that it will impose a sentence that fairly can be

[428 US 195]

called capricious or arbitrary.[45] Where the sentencing au-

42. But see Md Const, Art XV, § 5: "In the trial of all criminal cases, the jury shall be the Judges of the Law, as well as of fact . . . ." See also Md Code Ann, art 27, § 593 (1971). Maryland judges, however, typically give advisory instructions on the law to the jury. See Md Rule 756; Wilson v State, 239 Md 245, 210 A2d 824 (1965).

43. See McGautha v California, 402 US, at 204–207, 28 L Ed 2d 711, 91 S Ct 1454; Report of the Royal Commission on Capital Punishment, 1949–1953, Cmd 8932, ¶ 595.

44. The Model Penal Code proposes the following standards:
"(3) Aggravating Circumstances.
"(a) The murder was committed by a convict under sentence of imprisonment.
"(b) The defendant was previously convicted of another murder or of a felony involving the use or threat of violence to the person.
"(c) At the time the murder was committed the defendant also committed another murder.
"(d) The defendant knowingly created a great risk of death to many persons.
"(e) The murder was committed while the defendant was engaged or was an accomplice in the commission of, or an attempt to commit, or flight after committing or attempting to commit robbery, rape or deviate sexual intercourse by force or threat of force, arson, burglary or kidnapping.
"(f) The murder was committed for the purpose of avoiding or preventing a lawful arrest or effecting an escape from lawful custody.
"(g) The murder was committed for pecuniary gain.
"(h) The murder was especially heinous, atrocious or cruel, manifesting exceptional depravity.
"(4) Mitigating Circumstances.
"(a) The defendant has no significant history of prior criminal activity.
"(b) The murder was committed while the defendant was under the influence of extreme mental or emotional disturbance.
"(c) The victim was a participant in the defendant's homicidal conduct or consented to the homicidal act.
"(d) The murder was committed under circumstances which the defendant believed to provide a moral justification or extenuation for his conduct.
"(e) The defendant was an accomplice in a murder committed by another person and his participation in the homicidal act was relatively minor.
"(f) The defendant acted under duress or under the domination of another person.
"(g) At the time of the murder, the capacity of the defendant to appreciate the criminality [wrongfulness] of his conduct or to conform his conduct to the requirements of law was impaired as a result of mental disease or defect or intoxication.
"(h) The youth of the defendant at the time of the crime." ALI, Model Penal Code § 210.6 (Proposed Official Draft 1962).

45. As Mr. Justice Brennan noted in McGautha v California, supra, at 285–286 28 L Ed 2d 711, 91 S Ct 1454 (dissenting):
"[E]ven if a State's notion of wise capital sentencing policy is such that the policy cannot be implemented through a formula capable of mechanical application . . . there is no reason that it should not give some guidance to those called upon to render decision."

thority is required to specify the factors it relied upon in reaching its decision, the further safeguard of meaningful appellate review is available to ensure that death sentences are not imposed capriciously or in a freakish manner.

In summary, the concerns expressed in Furman that the penalty of death not be imposed in an arbitrary or capricious manner can be met by a carefully drafted statute that ensures that the sentencing authority is given adequate information and guidance. As a general proposition these concerns are best met by a system that provides for a bifurcated proceeding at which the sentencing authority is apprised of the information relevant to the imposition of sentence and provided with standards to guide its use of the information.

We do not intend to suggest that only the above-described procedures would be permissible under Furman or that any sentencing system constructed along these general lines would inevitably satisfy the concerns of Furman,[46] for each distinct system must be examined on an individual basis. Rather, we have embarked upon this general exposition to make clear that it is possible to construct capital-sentencing systems capable of meeting Furman's constitutional concerns.[47]

[428 US 196]
B

[1b] We now turn to consideration of the constitutionality of Georgia's capital-sentencing procedures. In the wake of Furman, Georgia amended its capital punishment statute, but chose not to narrow the scope of its murder provisions. See Part II, supra. Thus, now as before Furman, in Georgia "[a] person commits murder when he unlawfully and with malice aforethought, either express or implied, causes the death of another human being." Ga Code Ann, § 26-1101(a) (1972). All persons convicted of murder "shall be punished by death or by imprisonment for life." § 26-1101(c) (1972).

Georgia did act, however, to nar-

46. A system could have standards so vague that they would fail adequately to channel the sentencing decision patterns of juries with the result that a pattern of arbitrary and capricious sentencing like that found unconstitutional in Furman could occur.

47. In McGautha v California, supra, 28 L Ed 2d 711, 91 S Ct 1454, this Court held that the Due Process Clause of the Fourteenth Amendment did not require that a jury be provided with standards to guide its decision whether to recommend a sentence of life imprisonment or death or that the capital-sentencing proceeding be separated from the guilt-determination process. McGautha was not an Eighth Amendment decision, and to the extent it purported to deal with Eighth Amendment concerns, it must be read in light of the opinions in Furman v Georgia. There the Court ruled that death sentences imposed under statutes that left juries with untrammeled discretion to impose or withhold the death penalty violated the Eighth and Fourteenth Amendments. While Furman did not overrule McGautha, it is clearly in substantial tension with a broad reading of McGautha's holding. In view of Furman, McGautha can be viewed rationally as a precedent only for the proposition that standardless jury sentencing procedures were not employed in the cases there before the Court so as to violate the Due Process Clause. We note that McGautha's assumption that it is not possible to devise standards to guide and regularize jury sentencing in capital cases has been undermined by subsequent experience. In view of that experience and the considerations set forth in the text, we adhere to Furman's determination that where the ultimate punishment of death is at issue a system of standardless jury discretion violates the Eighth and Fourteenth Amendments.

row the class of murderers subject to capital punishment by specifying 10

[428 US 197]

statutory aggravating circumstances, one of which must be found by the jury to exist beyond a reasonable doubt before a death sentence can ever be imposed.[48] In addition, the jury is authorized to consider any other appropriate aggravating or mitigating circumstances. § 27-2534.1(b) (Supp 1975). The jury is not required to find any mitigating circumstance in order to make a recommendation of mercy that is binding on the trial court, see § 27-2302 (Supp 1975), but it must find a *statutory* aggravating circumstance before recommending a sentence of death.

These procedures require the jury to consider the circumstances of the crime and the criminal before it recommends sentence. No longer can a Georgia jury do as Furman's jury did: reach a finding of the defendant's guilt and then, without guidance or direction, decide whether he should live or die. Instead, the jury's attention is directed to the specific circumstances of the crime: Was it committed in the course of another capital felony? Was it committed for money? Was it committed upon a peace officer or judicial officer? Was it committed in a particularly heinous way or in a manner that endangered the lives of many persons? In addition, the jury's attention is focused on the characteristics of the person who committed the crime: Does he have a record of prior convictions for capital offenses? Are there any special facts about this defendant that mitigate against imposing capital punishment (e.g., his youth, the extent of his cooperation with the police, his emotional state at the time of the crime).[49] As a result, while

[428 US 198]

some jury discretion still exists, "the discretion to be exercised is controlled by clear and objective standards so as to produce nondiscriminatory application." Coley v State, 231 Ga 829, 834, 204 SE2d 612, 615 (1974).

As an important additional safeguard against arbitrariness and caprice, the Georgia statutory scheme provides for automatic appeal of all death sentences to the State's Supreme Court. That court is required by statute to review each sentence of death and determine whether it was imposed under the influence of passion or prejudice, whether the evidence supports the jury's finding of a statutory aggravating circumstance, and whether the sentence is disproportionate compared to those sentences imposed in similar cases. § 27-2537(c) (Supp 1975).

In short, Georgia's new sentencing procedures require as a prerequisite to the imposition of the death penalty, specific jury findings as to the circumstances of the crime or the character of the defendant. Moreover to guard further against a situation comparable to that presented in Furman, the Supreme Court of Georgia compares each death sentence with the sentences imposed on similarly situated defendants to ensure that the sentence of death in a particular case is not disproportionate. On their face these procedures seem to satisfy the concerns of Furman. No longer should there be "no meaningful basis for distinguishing the few cases in which [the death penalty] is imposed

48. The text of the statute enumerating the various aggravating circumstances is set out at n 9, supra.

49. See Moore v State, 233 Ga 861, 865, 213 SE2d 829, 832 (1975).

from the many cases in which it is not." 408 US, at 313, 33 L Ed 2d 346, 92 S Ct 2726 (White, J., concurring).

The petitioner contends, however, that the changes in the Georgia sentencing procedures are only cosmetic, that the arbitrariness and capriciousness condemned by Furman continue to exist in Georgia—both in traditional practices that still remain and in the new sentencing procedures adopted in response to Furman.

[428 US 199]
1

[3a] First, the petitioner focuses on the opportunities for discretionary action that are inherent in the processing of any murder case under Georgia law. He notes that the state prosecutor has unfettered authority to select those persons whom he wishes to prosecute for a capital offense and to plea bargain with them. Further, at the trial the jury may choose to convict a defendant of a lesser included offense rather than find him guilty of a crime punishable by death, even if the evidence would support a capital verdict. And finally, a defendant who is convicted and sentenced to die may have his sentence commuted by the Governor of the State and the Georgia Board of Pardons and Paroles.

The existence of these discretionary stages is not determinative of the issues before us. At each of these stages an actor in the criminal justice system makes a decision which may remove a defendant from consideration as a candidate for the death penalty. Furman, in contrast, dealt with the decision to impose the death sentence on a specific individual who had been convicted of a capital offense. Nothing in any of our cases suggests that the decision to afford an individual defendant mercy violates the Constitution. Furman held only that, in order to minimize the risk that the death penalty would be imposed on a capriciously selected group of offenders, the decision to impose it had to be guided by standards so that the sentencing authority would focus on the particularized circumstances of the crime and the defendant.[50]

[428 US 200]
2

The petitioner further contends that the capital-sentencing procedures adopted by Georgia in response

50. The petitioner's argument is nothing more than a veiled contention that Furman indirectly outlawed capital punishment by placing totally unrealistic conditions on its use. In order to repair the alleged defects pointed to by the petitioner, it would be necessary to require that prosecuting authorities charge a capital offense whenever arguably there had been a capital murder and that they refuse to plea bargain with the defendant. If a jury refused to convict even though the evidence supported the charge, its verdict would have to be reversed and a verdict of guilty entered or a new trial ordered, since the discretionary act of jury nullification would not be permitted. Finally, acts of executive clemency would have to be prohibited. Such a system, of course, would be totally alien to our notions of criminal justice.

Moreover, it would be unconstitutional. Such a system in many respects would have the vices of the mandatory death penalty statutes we hold unconstitutional today in Woodson v North Carolina, post, p 280, 49 L Ed 2d 944, 96 S Ct 2978, and Roberts v Louisiana, post, p 325, 49 L Ed 2d 974, 96 S Ct 3001. The suggestion that a jury's verdict of acquittal could be overturned and a defendant retried would run afoul of the Sixth Amendment jury-trial guarantee and the Double Jeopardy Clause of the Fifth Amendment. In the federal system it also would be unconstitutional to prohibit a President from deciding, as an act of executive clemency, to reprieve one sentenced to death. U.S. Const. Art II, § 2.

to Furman do not eliminate the dangers of arbitrariness and caprice in jury sentencing that were held in Furman to be violative of the Eighth and Fourteenth Amendments. He claims that the statute is so broad and vague as to leave juries free to act as arbitrarily and capriciously as they wish in deciding whether to impose the death penalty. While there is no claim that the jury in this case relied upon a vague or overbroad provision to establish the existence of a statutory aggravating circumstance, the petitioner looks to the sentencing system as a whole (as the Court did in Furman and we do today) and argues that it fails to reduce sufficiently the risk of arbitrary infliction of death sentences. Specifically, Gregg urges that the statutory aggravating circumstances are too broad and too vague, that the sentencing procedure allows for arbitrary grants of mercy, and that the scope of the evidence and argument that can be considered at the presentence hearing is too wide.

[428 US 201]

The petitioner attacks the seventh statutory aggravating circumstance, which authorizes imposition of the death penalty if the murder was "outrageously or wantonly vile, horrible or inhuman in that it involved torture, depravity of mind, or an aggravated battery to the victim," contending that it is so broad that capital punishment could be imposed in any murder case.[51] It is, of course, arguable that any murder involves depravity of mind or an aggravated battery. But this language need not be construed in this way, and there is no reason to assume that the Supreme Court of Georgia will adopt such an open-ended construction.[52] In only one case has it upheld a jury's decision to sentence a defendant to death when the only statutory aggravating circumstance found was that of the seventh, see McCorquodale v State, 233 Ga 369, 211 SE2d 577 (1974), and that homicide was a horrifying torture-murder.[53]

[428 US 202]

The petitioner also argues that two of the statutory aggravating circumstances are vague and therefore susceptible of widely differing interpretations, thus creating a substantial risk that the death penalty will be arbitrarily inflicted by Georgia ju-

51. In light of the limited grant of certiorari, see supra, at 162, 49 L Ed 2d, 868. We review the "vagueness" and "overbreadth" of the statutory aggravating circumstances only to consider whether their imprecision renders this capital-sentencing system invalid under the Eighth and Fourteenth Amendments because it is incapable of imposing capital punishment other than by arbitrariness or caprice.

52. In the course of interpreting Florida's new capital-sentencing statute, the Supreme Court of Florida has ruled that the phrase "especially heinous, atrocious or cruel" means a "conscienceless or pitiless crime which is unnecessarily torturous to the victim." State v Dixon, 283 So 2d 1, 9 (1973). See Proffitt v Florida, post, at 255-256. 49 L Ed 2d 913, 96 S Ct 2960.

53. Two other reported cases indicate that juries have found aggravating circumstances based on § 27-2534.1(b)(7). In both cases a separate statutory aggravating circumstance was also found, and the Supreme Court of Georgia did not explicitly rely on the finding of the seventh circumstance when it upheld the death sentence. See Jarrell v State, 234 Ga 410, 216 SE2d 258 (1975) (State Supreme Court upheld finding that defendant committed two other capital felonies—kidnaping and armed robbery—in the course of the murder, § 27-2534.1(b)(2); jury also found that the murder was committed for money, § 27-2534.1(b)(4) and that a great risk of death to bystanders was created (§ 27-2534.1(b)(3)); Floyd v State, 233 Ga 280, 210 SE2d 810 (1974) (found to have committed a capital felony—armed robbery—in the course of the murder, § 27-2534.1(b)(2)).

ries.[54] In light of the decisions of the Supreme Court of Georgia we must disagree. First, the petitioner attacks that part of § 27-2534.1(b)(1) that authorizes a jury to consider whether a defendant has a "substantial history of serious assaultive criminal convictions." The Supreme Court of Georgia, however, has demonstrated a concern that the new sentencing procedures provide guidance to juries. It held this provision to be impermissably vague in Arnold v State, 236 Ga 534, 540, 224 SE2d 386, 391 (1976), because it did not provide the jury with "sufficiently 'clear and objective standards.'" Second, the petitioner points to § 27-2534.1(b)(3) which speaks of creating a "great risk of death to more than one person." While such a phrase might be susceptible to an overly broad interpretation, the Supreme Court of Georgia has not so construed it. The only case in which the court upheld a conviction in reliance on this aggravating circumstance involved a man who stood up in a church and fired a gun indiscriminately into the audience. See

[428 US 203]

Chenault v State, 234 Ga 216, 215 SE2d 223 (1975). On the other hand, the court expressly reversed a finding of great risk when the victim was simply kidnaped in a parking lot. See Jarrell v State, 234 Ga 410, 424, 216 SE2d 258, 269 (1975).[55]

The petitioner next argues that the requirements of Furman are not met here because the jury has the power to decline to impose the death penalty even if it finds that one or more statutory aggravating circumstances are present in the case. This contention misinterprets Furman. See supra, at 198–199, 49 L Ed 2d 888–889. Moreover, it ignores the role of the Supreme Court of Georgia which reviews each death sentence to determine whether it is proportional to other sentences imposed for similar crimes. Since the proportionality requirement on review is intended to prevent caprice in the decision to inflict the penalty, the isolated decision of a jury to afford mercy does not render unconstitutional death sentences imposed on defendants who were sentenced under a system that does not create a substantial risk of arbitrariness or caprice.

The petitioner objects, finally, to the wide scope of evidence and argument allowed at presentence hearings. We think that the Georgia court wisely has chosen not to impose unnecessary restrictions on the evidence that can be offered as such a hearing and to approve open and far-ranging argument. See, e. g., Brown v State, 235 Ga 644, 220 SE2d 922 (1975). So long as the

[428 US 204]

evidence introduced and the arguments made at the presentence hearing do not prejudice a defendant, it is preferable not to impose restrictions. We think it desirable for the jury to have as much information before it as possible when it makes the sentencing de-

54. The petitioner also attacks § 27-2534.1(b)(7) as vague. As we have noted in answering his overbreadth argument concerning this section, however, the state court has not given a broad reading to the scope of this provision, and there is no reason to think that juries will not be able to understand it. See n 51, supra; Proffitt v Florida, post, at 255–256, 49 L Ed 2d 913, 96 S Ct 2960.

55. The petitioner also objects to the last part of § 27-2534.1(b)(3) which requires that the great risk be created "by means of a weapon or device which would normally be hazardous to the lives of more than one person." While the state court has not focused on this section, it seems reasonable to assume that if a great risk in fact is created, it will be likely that a weapon or device normally hazardous to more than one person will have created it.

cision. See supra, at 189–190, 49 L Ed 2d 883–884, supra.

3

Finally, the Georgia statute has an additional provision designed to assure that the death penalty will not be imposed on a capriciously selected group of convicted defendants. The new sentencing procedures require that the state supreme court review every death sentence to determine whether it was imposed under the influence of passion, prejudice, or any other arbitrary factor, whether the evidence supports the findings of a statutory aggravating circumstance, and "[w]hether the sentence of death is excessive or disproportionate to the penalty imposed in similar cases, considering both the crime and the defendant." § 27-2537(c)(3) (Supp 1975).[56] In performing

[428 US 205]

its sentence-review function, the Georgia court has held that "if the death penalty is only rarely imposed for an act or it is substantially out of line with sentences imposed for other acts it will be set aside as excessive." Coley v State, 231 Ga, at 834, 204 SE2d, at 616. The court on another occasion stated that "we view it to be our duty under the similarity standard to assure that no death sentence is affirmed unless in similar cases throughout the state the death penalty has been imposed generally . . . ." Moore v State, 233 Ga 861, 864, 213 SE2d 829, 832 (1975). See also Jarrell v State, supra, at 425, 216 SE2d, at 270 (standard is whether "juries generally throughout the state have imposed the death penalty"); Smith v State, 236 Ga 12, 24, 222 SE2d 308, 318 (1976) (found "a clear pattern" of jury behavior).

It is apparent that the Supreme Court of Georgia has taken its review responsibilities seriously. In Coley, it held that "[t]he prior cases indicate that the past practice among juries faced with similar factual situations and like aggravating circumstances has been to impose only the sentence of life imprisonment for the offense of rape, rather than death." 231 Ga, at 835, 204 SE2d, at 617. It thereupon reduced Coley's sentence from death to life imprisonment. Similarly, although armed robbery is a capital offense under Georgia law, § 26-1902 (1972), the Georgia co[illegible]ncluded that the death senten[illegible]posed in this case for that cri[illegible]ere "unusual in that they ar[illegible]ly imposed for [armed robbery] [illegible] under the test provided by s[illegible] . . . they must be considered [illegible]cessive or

56. The court is required to specify in its opinion the similar cases which it took into consideration. § 27-2537(e) (Supp 1975). Special provision is made for staff to enable the court to compile data relevant to its consideration of the sentence's validity. §§ 27-2537(f)–(h) (Supp 1975). See generally supra, at 166–168, 49 L Ed 2d 871.

The petitioner claims that this procedure has resulted in an inadequate basis for measuring the proportionality of sentences. First, he notes that nonappealed capital convictions where a life sentence is imposed and cases involving homicides where a capital conviction is not obtained are not included in the group of cases which the Supreme [illegible]eorgia uses for comparative purposes. [illegible]rgia court has the authority to conside[illegible]ases, see Ross v State, 233 Ga 361, 36[illegible] SE2d 356, 359 (1974), and it does cons[illegible]ealed murder cases where a life sentenc[illegible]been imposed. We do not think that the peti[illegible]er's argument establishes that the Georgia c[illegible]rts review process is ineffective. The petitioner further complains about the Georgia court's current practice of using some pre-Furman cases in its comparative examination. This practice was necessary at the inception of the new procedure in the absence of any post-Furman capital cases available for comparison. It is not unconstitutional.

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3

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[428 US 205]

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It is apparent that the Supreme Court of Georgia has taken its review responsibilities seriously. In Coley, it held that "[t]he prior cases indicate that the past practice among juries faced with similar factual situations and like aggravating circumstances has been to impose only the sentence of life imprisonment for the offense of rape, rather than death." 231 Ga, at 835, 204 SE2d, at 617. It thereupon reduced Coley's sentence from death to life imprisonment. Similarly, although armed robbery is a capital offense under Georgia law, § 26-1902 (1972), the Georgia court concluded that the death sentences imposed in this case for that crime were "unusual in that they are rarely imposed for [armed robbery]. Thus, under the test provided by statute, . . . they must be considered to be excessive or

56. The court is required to specify in its opinion the similar cases which it took into consideration. § 27-2537(e) (Supp 1975). Special provision is made for staff to enable the court to compile data relevant to its consideration of the sentence's validity. §§ 27-2537(f)–(h) (Supp 1975). See generally supra, at 166–168, 49 L Ed 2d 871.

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disproportionate to the penalties imposed in similar cases." 233
[428 US 206]
Ga, at 127, 210 SE2d, at 667. The court therefore vacated Gregg's death sentences for armed robbery and has followed a similar course in every other armed robbery death penalty case to come before it. See Floyd v State, 233 Ga 280, 285, 210 SE2d 810, 814 (1974); Jarrell v State, 234 Ga, at 424–425, 216 SE2d, at 270 (1975). See Dorsey v State, 236 Ga 521, 225 SE2d 418 (1976).

The provision for appellate review in the Georgia capital-sentencing system serves as a check against the random or arbitrary imposition of the death penalty. In particular, the proportionality review substantially eliminates the possibility that a person will be sentenced to die by the action of an aberrant jury. If a time comes when juries generally do not impose the death sentence in a certain kind of murder case, the appellate review procedures assure that no defendant convicted under such circumstances will suffer a sentence of death.

V

The basic concern of Furman centered on those defendants who were being condemned to death capriciously and arbitrarily. Under the procedures before the Court in that case, sentencing authorities were not directed to give attention to the nature or circumstances of the crime committed or to the character or record of the defendant. Left unguided, juries imposed the death sentence in a way that could only be called freakish. The new Georgia sentencing procedures, by contrast, focus the jury's attention on the particularized nature of the crime and the particularized characteristics of the individual defendant. While the jury is permitted to consider any aggravating or mitigating circumstances, it must find and identify at least one statutory aggravating factor before it may impose a penalty of death. In this way the jury's discretion is channeled. No longer
[428 US 207]
can a jury wantonly and freakishly impose the death sentence; it is always circumscribed by the legislative guidelines. In addition, the review function of the Supreme Court of Georgia affords additional assurance that the concerns that prompted our decision in Furman are not present to any significant degree in the Georgia procedure applied here.

For the reasons expressed in this opinion, we hold that the statutory system under which Gregg was sentenced to death does not violate the Constitution. Accordingly, the judgment of the Georgia Supreme Court is affirmed.

It is so ordered.

Mr. Justice **White**, with whom The **Chief Justice** and Mr. Justice **Rehnquist** join, concurring in the judgment.

[1c] In Furman v Georgia, 408 US 238, 33 L Ed 2d 346, 92 S Ct 2726 (1972), this Court held the death penalty as then administered in Georgia to be unconstitutional. That same year the Georgia Legislature enacted a new statutory scheme under which the death penalty may be imposed for several offenses, including murder. The issue in this case is whether the death penalty imposed for murder on petitioner Gregg under the new Georgia statutory scheme may constitutionally be carried out. I agree that it may.

I

Under the new Georgia statutory scheme a person convicted of murder may receive a sentence either of death or of life imprisonment. Ga Code Ann § 26-1101 (1972).[1] Under Georgia Code Ann § 26-3102 (Supp 1975), the sentence will be life imprisonment unless the jury at a separate evidentiary proceeding immediately following the verdict finds unanimously and beyond a reasonable doubt at least one statutorily defined "aggravating circumstance."[2]

1. Section 26-1101 provides, as follows:

"Murder.

"(a) A person commits murder when he unlawfully and with malice aforethought, either express or implied, causes the death of another human being. Express malice is that deliberate intention unlawfully to take away the life of a fellow creature, which is manifested by external circumstances capable of proof. Malice shall be implied where no considerable provocation appears, and where all the circumstances of the killing show an abandoned and malignant heart.

"(b) A person also commits the crime of murder when in the commission of a felony he causes the death of another human being, irrespective of malice.

"(c) A person convicted of murder shall be punished by death or by imprisonment for life."

The death penalty may also be imposed for kidnaping, Ga Code Ann § 26-1311; armed robbery, § 26-1902; rape, § 26-2001; treason, § 26-2201; and aircraft hijacking, § 26-3301.

2. Section 26-3102 (Supp 1975) provides:

"Capital offenses; jury verdict and sentence.

"Where, upon a trial by jury, a person is convicted of an offense which may be punishable by death, a sentence of death shall not be imposed unless the jury verdict includes a finding of at least one statutory aggravating circumstance and a recommendation that such sentence be imposed. Where a statutory aggravating circumstance is found and a recommendation of death is made, the court shall sentence the defendant to death. Where a sentence of death is not recommended by the jury, the court shall sentence the defendant to imprisonment as provided by law. Unless the jury trying the case makes a finding of at least one statutory aggravating circumstance and recommends the death sentence in its verdict, the court shall not sentence the defendant to death, provided that no such finding of statutory aggravating circumstance shall be necessary in offenses of treason or aircraft hijacking. The provisions of this section shall not affect a sentence when the case is tried without a jury or when the judge accepts a plea of guilty."

Georgia Laws, 1973, Act No. 74, p 162, provides:

"At the conclusion of all felony cases heard by a jury, and after argument of counsel and proper charge from the court, the jury shall retire to consider a verdict of guilty or not guilty without any consideration of punishment. In non-jury felony cases, the judge shall likewise first consider a finding of guilty or not guilty without any consideration of punishment. Where the jury or judge returns a verdict or finding of guilty, the court shall resume the trial and conduct a pre-sentence hearing before the jury or judge at which time the only issue shall be the determination of punishment to be imposed. In such hearing, subject to the laws of evidence, the jury or judge shall hear additional evidence in extenuation, mitigation, and aggravation of punishment, including the record of any prior criminal convictions and pleas of guilty or pleas of nolo contendere of the defendant, or the absence of any such prior criminal convictions and pleas; provided, however, that only such evidence in aggravation as the State has made known to the defendant prior to his trial shall be admissible. The jury or judge shall also hear argument by the defendant or his counsel and the prosecuting attorney, as provided by law, regarding the punishment to be imposed. The prosecuting attorney shall open and the defendant shall conclude the argument to the jury or judge. Upon the conclusion of the evidence and arguments, the judge shall give the jury appropriate instructions and the jury shall retire to determine the punishment to be imposed. In cases in which the death penalty may be imposed by a jury or judge sitting without a jury, the additional procedure provided in Code section 27-2534.1 shall be followed. The jury, or the judge in cases tried by a judge, shall fix a sentence within the limits prescribed by law. The judge shall impose the sentence fixed by the jury or judge, as provided by law. If the jury cannot, within a reasonable time, agree to the punishment, the judge shall impose sentence within the limits of the law; provided, however, that the judge shall in no instance impose the death penalty when, in cases tried by a jury, the jury cannot agree upon the punishment. If the trial court is reversed on appeal because of error only in the pre-sentence hearing, the new trial which may be ordered shall apply only to the issue of punishment."

The aggravating circumstances are:

"(1) The offense of murder, rape, armed robbery,

[428 US 209]

or kidnapping was committed by a person with a prior record of conviction for a capital felony, or the offense of murder was committed by a person

[428 US 210]

who has a substantial history of serious assaultive criminal convictions.

"(2) The offense of murder, rape, armed robbery, or kidnapping was committed while the offender was engaged in the commission of another capital felony or aggravated battery, or the offense of murder was committed while the offender was engaged in the commission of burglary or arson in the first degree.

"(3) The offender by his act of murder, armed robbery, or kidnapping knowingly created a great risk of death to more than one person in a public place by means of a weapon or device which would normally be hazardous to the lives of more than one person.

"(4) The offender committed the offense of murder for himself or another, for the purpose of receiving money or any other thing of monetary value.

"(5) The murder of a judicial officer, former judicial officer, district attorney or solicitor or former district attorney or solicitor during or because of the exercise of his official duty.

"(6) The offender caused or directed another to commit murder or committed murder as an agent or employee of another person.

"(7) The offense of murder, rape, armed robbery, or kidnapping was outrageously or wantonly vile, horrible or inhuman in that it involved torture, depravity of mind, or an aggravated battery to the victim.

"(8) The offense of murder was committed against any peace officer, corrections employee or fireman while engaged in the performance of his official duties.

[428 US 211]

"(9) The offense of murder was committed by a person in, or who has escaped from, the lawful custody of a peace officer or place of lawful confinement.

"(10) The murder was committed for the purpose of avoiding, interfering with, or preventing a lawful arrest or custody in a place of lawful confinement, of himself or another." § 27-2534.1(b) (Supp 1975).

Having found an aggravating circumstance, however, the jury is not required to impose the death penalty. Instead, it is merely authorized to impose it after considering evidence of "any mitigating circumstances or aggravating circumstances otherwise authorized by law and any of the [enumerated] statutory aggravating circumstances . . ." § 27-2534.1(b) (Supp 1975). Unless the jury unanimously determines that the death penalty should be imposed, the defendant will be sentenced to life imprisonment. In the event that the jury does impose the death penalty, it must designate in writing the aggravating circumstance which it found to exist beyond a reasonable doubt.

An important aspect of the new

Georgia legislative scheme, however, is its provision for appellate review. Prompt review by the Georgia Supreme Court is provided for in every case in which the death penalty is imposed. To assist it in deciding whether to sustain the death penalty, the Georgia Supreme Court is supplied, in every case, with a report from the trial judge in the form of a standard questionnaire. § 27-2537(a) (Supp 1975). The questionnaire contains, inter alia, six questions designed to disclose whether race played a role in the case and one question asking the trial judge whether the evidence forecloses "all doubt respecting the defendant's

[428 US 212]

guilt."

In deciding whether the death penalty is to be sustained in any given case, the court shall determine:

> "(1) Whether the sentence of death was imposed under the influence of passion, prejudice, or any other arbitrary factor, and
>
> "(2) Whether, in cases other than treason or aircraft hijacking, the evidence supports the jury's or judge's finding of a statutory aggravating circumstance as enumerated in section 27-2534.1(b), and
>
> "(3) Whether the sentence of death is excessive or disproportionate to the penalty imposed in similar cases, considering both the crime and the defendant. . . ."

In order that information regarding "similar cases" may be before the court, the post of Assistant to the Supreme Court was created. The Assistant must "accumulate the records of all capital felony cases in which sentence was imposed after January 1, 1970, or such earlier date as the court may deem appropriate." § 27-2537(f).[3] The court is required to include in its decision a reference to "those similar cases which it took into consideration." § 27-2537(e).

II

Petitioner Troy Gregg and a 16-year-old companion, Sam Allen, were hitchhiking from Florida to Asheville, N. C., on November 21, 1973. They were picked up in an automobile driven by Fred Simmons and Bob Moore, both of whom were drunk. The car broke down and Simmons purchased a new one—a 1960 Pontiac—using

[428 US 213]

part of a large roll of cash which he had with him. After picking up another hitchhiker in Florida and dropping him off in Atlanta, the car proceeded north to Gwinnett County, Ga., where it stopped so that Moore and Simmons could urinate. While they were out of the car Simmons was shot in the eye and Moore was shot in the right cheek and in the back of the head. Both died as a result.

On November 24, 1973, at 3 p.m., on the basis of information supplied by the hitchhiker, petitioner and Allen were arrested in Asheville, N. C. They were then in possession of the car which Simmons had purchased; petitioner was in possession of the

3. Section 27-2537(g) provides:

"The court shall be authorized to employ an appropriate staff and such methods to compile such data as are deemed by the Chief Justice to be appropriate and relevant to the statutory questions concerning the validity of the sentence. . . ."

gun which had killed Simmons and Moore and $107 which had been taken from them; and in the motel room in which petitioner was staying was a new stereo and a car stereo player.

At about 11 p.m., after the Gwinnett County police had arrived, petitioner made a statement to them admitting that he had killed Moore and Simmons, but asserting that he had killed them in self-defense and in defense of Allen. He also admitted robbing them of $400 and taking their car. A few moments later petitioner was asked why he had shot Moore and Simmons and responded: "By God, I wanted them dead."

At about 1 o'clock the next morning, petitioner and Allen were released to the custody of the Gwinnett County police and were transported in two cars back to Gwinnett County. On the way, at about 5 a.m., the car stopped at the place where Moore and Simmons had been killed. Everyone got out of the car. Allen was asked, in petitioner's presence, how the killing occurred. He said that he had been sitting in the back seat of the 1960 Pontiac and was about half asleep. He woke up when the car stopped. Simmons and Moore got out, and as soon as they did petitioner turned around and told Allen: "Get out, we're going to rob them." Allen said that he

[428 US 214]

got out and walked toward the back of the car, looked around and could see petitioner, with a gun in his hand, leaning up against the car so he could get a good aim. Simmons and Moore had gone down the bank and had relieved themselves and as they were coming up the bank petitioner fired three shots. One of the men fell, the other staggered. Petitioner then circled around the back and approached the two men, both of whom were now lying in the ditch, from behind. He placed the gun to the head of one of them and pulled the trigger. Then he went quickly to the other one and placed the gun to his head and pulled the trigger again. He then took the money, whatever was in their pockets. He told Allen to get in the car and they drove away.

When Allen had finished telling this story, one of the officers asked petitioner if this was the way it had happened. Petitioner hung his head and said that it was. The officer then said: "You mean you shot these men down in cold blooded murder just to rob them," and petitioner said yes. The officer then asked him why and petitioner said he did not know. Petitioner was indicted in two counts for murder and in two counts for robbery.

At trial, petitioner's defense was that he had killed in self-defense. He testified in his own behalf and told a version of the events similar to that which he had originally told to the Gwinnett County police. On cross-examination, he was confronted with a letter to Allen recounting a version of the events similar to that to which he had just testified and instructing Allen to memorize and burn the letter. Petitioner conceded writing the version of the events, but denied writing the portion of the letter which instructed Allen to memorize and burn it. In rebuttal, the State called a handwriting expert who testified that the entire letter was written by the same person.

[428 US 215]

The jury was instructed on the ele-

ments of murder[4] and robbery. The trial judge gave an instruction on self-defense, but refused to submit the lesser included

[428 US 216]

offense of manslaughter to the jury. It returned verdicts of guilty on all counts.

No new evidence was presented at the sentencing proceeding. However, the prosecutor and the attorney for petitioner each made arguments to the jury on the issue of punishment. The prosecutor emphasized the strength of the case against petitioner and the fact that he had murdered in order to eliminate the witnesses to the robbery. The defense attorney emphasized the possibility that a mistake had been made and that petitioner was not guilty. The trial judge instructed the jury on

[428 US 217]

their sentencing function and in so doing submitted to them three statu-

4. The court said:

"And, I charge you that our law provides, in connection with the offense of murder the following. A person commits murder when he unlawfully and with malice aforethought, either express or implied causes the death of another human being.

"Express malice is that deliberate intention, unlawfully to take away the life of a fellow creature which is manifested by external circumstances, capable of proof.

"Malice shall be implied where no considerable provocation appears and where all of the circumstances of the killing show an abandoned and malignant heart.

"Section B of this Code Section, our law provides that a person also commits the crime of murder when in the commission of a felony he causes the death of another human being irrespective of malice.

"Now, then, I charge you that if you find and believe beyond a reasonable doubt that the defendant did commit the homicide in the two counts alleged in this indictment, at the time he was engaged in the commission of some other felony, you would be authorized to find him guilty of murder.

"In this connection, I charge you that in order for a homicide to have been done in the perpetration of a felony, there must be some connection between the felony and the homicide. The homicide must have been done in pursuance of the unlawful act not collateral to it. It is not enough that the homicide occurred soon or presently after the felony was attempted or committed, there must be such a legal relationship between the homicide and the felony that you find that the homicide occurred by reason of and a part of the felony or that it occurred before the felony was at an end, so that the felony had a legal relationship to the homicide and was concurrent with it in part at least, and a part of it in an actual and material sense. A homicide is committed in the perpetration of a felony when it is committed by the accused while he is engaged in the performance of any act required for the full execution of such felony.

"I charge you that if you find and believe beyond a reasonable doubt that the homicide alleged in this indictment was caused by the defendant while he, the said accused was in the commission of a felony as I have just given you in this charge, you would be authorized to convict the defendant of murder.

"And this you would be authorized to do whether the defendant intended to kill the deceased or not. A homicide, although unintended, if committed by the accused at the time he is engaged in the commission of some other felony constitutes murder.

"In order for a killing to have been done in perpetration or attempted perpetration of a felony, or of a particular felony, there must be some connection as I previously charged you between the felony and the homicide.

"Before you would be authorized to find the defendant guilty of the offense of murder, you must find and believe beyond a reasonable doubt that the defendant did, with malice aforethought either express or implied cause the deaths of [Simmons or Moore] or you must find and believe beyond a reasonable doubt that the defendant, while in the commission of a felony caused the death of these two victims just named.

"I charge you, that if you find and believe that, at any time prior to the date this indictment was returned into this court that the defendant did, in the county of Gwinnett, State of Georgia, with malice aforethought kill and murder the two men just named in the way and manner set forth in the indictment or that the defendant caused the deaths of these two men in the way and manner set forth in the indictment, while he, the said accused was in the commission of a felony, then in either event, you would be authorized to find the defendant guilty of murder."

tory aggravating circumstances. He stated:

"Now, as to counts one and three, wherein the defendant is charged with the murders of—has been found guilty of the murders of [Simmons and Moore], the following aggravating circumstances are some that you can consider, as I say, you must find that these existed beyond a reasonable doubt before the death penalty can be imposed.

"One—That the offense of murder was committed while the offender was engaged in the commission of two other capital felonies, to-wit the armed robbery of [Simmons and Moore].

"Two—That the offender committed the offense of murder for the purpose of receiving money and the automobile described in the indictment.

"Three—The offense of murder was outrageously and wantonly vile, horrible and inhuman, in that they involved the depravity of mind of the defendant.

"Now, so far as the counts two and four, that is the counts of armed robbery, of which you have found the defendant guilty, then you may find—inquire into these aggravating circumstances.

"That the offense of armed robbery was committed while the offender was engaged in the commission of two capital felonies, to-wit the murders of [Simmons and Moore] or that the offender committed the offense of armed robbery for the purpose of receiving money and the automobile set forth in the indictment, or three, that the offense of armed robbery was outrageously and wantonly vile, horrible and inhuman in that they involved the depravity of the mind of the defendant.

[428 US 218]

"Now, if you find that there was one or more of these aggravating circumstances existed beyond a reasonable doubt, then and I refer to each individual count, then you would be authorized to consider imposing the sentence of death.

"If you do not find that one of these aggravating circumstances existed beyond a reasonable doubt, in either of these counts, then you would not be authorized to consider the penalty of death. In that event, the sentence as to counts one and three, those are the counts wherein the defendant was found guilty of murder, the sentence could be imprisonment for life." Tr 476–477.

The jury returned the death penalty on all four counts finding all the aggravating circumstances submitted to it, except that it did not find the crimes to have been "outrageously or wantonly vile," etc.

On appeal the Georgia Supreme Court affirmed the death sentences on the murder counts and vacated the death sentences on the robbery counts. 233 Ga 117, 210 SE2d 659 (1974). It concluded that the murder sentences were not imposed under the influence of passion, prejudice, or any other arbitrary factor; that the evidence supported the finding of a statutory aggravating factor with respect to the murders; and, citing several cases in which the death penalty had been imposed previously for murders of persons who had witnessed a robbery, held:

"After considering both the crimes and the defendant and after comparing the evidence and the sentences in this case with those of previous murder cases, we are also of the opinion that these two sentences of death are not excessive or disproportionate to the penalties imposed in similar cases

[428 US 219]

which are hereto attached."[5] Id., at 127, 210 SE2d, at 667.

However, it held with respect to the robbery sentences:

"Although there is no indication that these two

[428 US 220]

sentences were imposed under the influence of passion, prejudice or any other arbitrary factor, the sentences imposed here are unusual in that they are rarely imposed for this offense. Thus, under the test provided by statute for comparison (Code Ann § 27-2537(c), (3)), they must be considered to be excessive or disproportionate to the penalties imposed in similar cases." Ibid.

Accordingly, the sentences on the robbery counts were vacated.

III

The threshold question in this case

5. In a subsequently decided robbery-murder case, the Georgia Supreme Court had the following to say about the same "similar cases" referred to in this case:

"We have compared the evidence and sentence in this case with other similar cases and conclude the sentence of death is not excessive or disproportionate to the penalty imposed in those cases. Those similar cases we considered in reviewing the case are: Lingo v State, 226 Ga 496 (175 SE2d 657), Johnson v State, 226 Ga 511 (175 SE2d 840), Pass v State, 227 Ga 730 (182 SE2d 779), Watson v State, 229 Ga 787 (194 SE2d 407), Scott v State, 230 Ga 413 (197 SE2d 338), Kramer v State, 230 Ga 855 (199 SE2d 805), and Gregg v State, 233 Ga 117 (210 SE2d 659).

"In each of the comparison cases cited, the records show that the accused was found guilty of murder of the victim of the robbery or burglary committed in the course of such robbery or burglary. In each of those cases, the jury imposed the sentence of death. In Pass v State, supra, the murder took place in the victim's home, as occurred in the case under consideration.

"We find that the sentence of death in this case is not excessive or disproportionate to the penalty imposed in similar cases, considering both the crime and the defendant. Code Ann § 27-2537(c)(3). Notwithstanding the fact that there have been cases in which robbery victims were murdered and the juries imposed life sentences (see Appendix), the cited cases show that juries faced with similar factual situations have imposed death sentences. Compare Coley v State, 231 Ga 829, 835, supra. Thus the sentence here was not 'wantonly and freakishly imposed' (see above)." Moore v State, 233 Ga 861, 865–866, 213 SE2d 829, 833 (1975).

In another case decided after the instant case the Georgia Supreme Court stated:

"The cases reviewed included all murder cases coming to this court since January 1, 1970. All kidnapping cases were likewise reviewed. The comparison involved a search for similarities in addition to the similarity of offense charged and sentence imposed.

"All of the murder cases selected for comparison involved murders wherein all of the witnesses were killed or an attempt was made to kill all of the witnesses, and kidnapping cases where the victim was killed or seriously injured.

"The cases indicate that, except in some special circumstance such as a juvenile or an accomplice driver of a get-away vehicle, where the murder was committed and trial held at a time when the death penalty statute was effective, juries generally throughout the state have imposed the death penalty. The death penalty has also been imposed when the kidnap victim has been mistreated or seriously injured. In this case the victim was murdered.

"The cold blooded and callous nature of the offenses in this case are the types condemned by death in other cases. This defendant's death sentences for murder and kidnapping are not excessive or disproportionate to the penalty imposed in similar cases. Using the standards prescribed for our review by the statute, we conclude that the sentences of death imposed in this case for murder and kidnapping were not imposed under the influence of passion, prejudice or any other arbitrary factor." Jarrell v State, 234 Ga 410, 425–426, 216 SE2d 258, 270 (1975).

is whether the death penalty may be carried out for murder under the Georgia legislative scheme consistent with the decision in Furman v Georgia, supra. In Furman, this Court held that as a result of giving the sentencer unguided discretion to impose or not to impose the death penalty for murder, the penalty was being imposed discriminatorily,[6]

[426 US 221]

wantonly and freakishly,[7] and so infrequently[8] that any given death sentence was cruel and unusual. Petitioner argues that, as in Furman, the jury is still the sentencer; that the statutory criteria to be considered by the jury on the issue of sentence under Georgia's new statutory scheme are vague and do not purport to be all-inclusive; and that, in any event, there are no circumstances under which the jury is required to impose the death penalty.[9] Consequently, the petitioner argues that the death penalty will inexorably be imposed in as discriminatory, standardless, and rare a manner as it was imposed under the scheme declared invalid in Furman.

The argument is considerably overstated. The Georgia Legislature has made an effort to identify those aggravating factors which it considers necessary and relevant to the question whether a defendant convicted of capital murder should be sentenced to death.[10] The

[428 US 222]

jury which imposes sentence is instructed on all statutory aggravating factors which are supported by the evidence, and is told that it may not impose the death penalty unless it unanimously finds at least one of those factors to have been established beyond a reasonable doubt. The Georgia Legislature has plainly made an effort to guide the jury in the exercise of its discretion, while at the same time permitting the jury to dispense mercy on the basis of factors too intangible to write into a statute, and I cannot accept the naked assertion that the effort is bound to fail. As the types of murders for which the death penalty may be imposed become more narrowly defined and are limited to those which are particularly serious or for which the death penalty is peculiarly appropriate as they are in Georgia by reason of the aggravating-circumstance requirement, it becomes reasonable to expect that juries—even given dis-

6. See Furman v Georgia, 408 US, at 240, 33 L Ed 2d 346, 92 S Ct 2726 (Douglas, J., concurring).

7. See id., at 306, 33 L Ed 2d 346, 92 S Ct 2726 (Stewart, J., concurring).

8. See id., at 310, 33 L Ed 2d 346, 92 S Ct 2726 (White, J., concurring).

9. Petitioner also argues that the differences between murder—for which the death penalty may be imposed—and manslaughter—for which it may not be imposed—are so difficult to define and the jury's ability to disobey the trial judge's instructions so unfettered that juries will use the guilt-determination phase of a trial arbitrarily to convict some of a capital offense while convicting similarly situated individuals only of noncapital offenses. I believe this argument is enormously overstated. However, since the jury has discretion not to impose the death penalty at the sentencing phase of a case in Georgia, the problem of offense definition and jury nullification loses virtually all its significance in this case.

10. The factor relevant to this case is that the "murder . . . was committed while the offender was engaged in the commission of another capital felony." The State in its brief refers to this type of murder as "witness-elimination" murder. Apparently the State of Georgia wishes to supply a substantial incentive to those engaged in robbery to leave their guns at home and to persuade their coconspirators to do the same in the hope that fewer victims of robberies will be killed.

cretion *not* to impose the death penalty—will impose the death penalty in a substantial portion of the cases so defined. If they do, it can no longer be said that the penalty is being imposed wantonly and freakishly or so infrequently that it loses its usefulness as a sentencing device. There is, therefore, reason to expect that Georgia's current system would escape the infirmities which invalidated its previous system under Furman. However, the Georgia Legislature was not satisfied with a system which might, but also might not, turn out in practice to result in death sentences being imposed with reasonable consistency for certain serious murders. Instead, it gave the Georgia Supreme Court the power and the obligation to perform precisely the task which three Justices of this Court, whose opinions were necessary to the result, performed

[428 US 223]

in Furman: namely, the task of deciding whether *in fact* the death penalty was being administered for any given class of crime in a discriminatory, standardless, or rare fashion.

In considering any given death sentence on appeal, the Georgia Supreme Court is to determine whether the sentence imposed was consistent with the relevant statutes—i.e., whether there was sufficient evidence to support the finding of an aggravating circumstance. Ga Code Ann § 27-2537(c)(2) (Supp 1975). However, it must do much more than determine whether the penalty was lawfully imposed. It must go on to decide—after reviewing the penalties imposed in "similar cases"—whether the penalty is "excessive or disproportionate" considering both the crime and the defendant. § 27-2537(c)(3) (Supp 1975). The new Assistant to the Supreme Court is to assist the court in collecting the records of "all capital felony cases"[11] in the State of Georgia in which sentence was imposed after January 1, 1970. § 27-2537(f) (Supp 1975). The court also has the obligation of determining whether the penalty was "imposed under the influence of passion, prejudice, or any other arbitrary factor." § 27-2537(c)(1) (Supp 1975). The Georgia Supreme Court has interpreted the appellate review statute to require it to set aside the death sentence whenever juries across the State impose it only rarely for the type of crime in question; but to require it to affirm death sentences whenever juries across the State generally impose it for the crime in question.

[428 US 224]

Thus, in this case the Georgia Supreme Court concluded that the death penalty was so rarely imposed for the crime of robbery that it set aside the sentences on the robbery counts, and effectively foreclosed that penalty from being imposed for that crime in the future under the legislative scheme now in existence. Similarly, the Georgia Supreme Court has determined that juries impose the death sentence too rarely with respect to certain classes of rape. Compare Coley v State, 231 Ga 829, 204 SE2d 612 (1974), with Coker v State, 234 Ga 555, 216 SE2d 782 (1975). However, it concluded that juries "generally throughout the state" have imposed the death penalty for those who murder witnesses to armed robberies. Jarrell v State, 234 Ga 410,

11. Petitioner states several times without citation that the only cases considered by the Georgia Supreme Court are those in which an appeal was taken either from a sentence of death or life imprisonment. This view finds no support in the language of the relevant statutes. Moore v State, 233 Ga, at 863–864, 213 SE2d, at 832.

425, 216 SE2d 258, 270 (1975). Consequently, it affirmed the sentences in this case on the murder counts. If the Georgia Supreme Court is correct with respect to this factual judgment, imposition of the death penalty in this and similar cases is consistent with Furman. Indeed, if the Georgia Supreme Court properly performs the task assigned to it under the Georgia statutes, death sentences imposed for discriminatory reasons or wantonly or freakishly for any given category of crime will be set aside. Petitioner has wholly failed to establish, and has not even attempted to establish, that the Georgia Supreme Court failed properly to perform its task in this case or that it is incapable of performing its task adequately in all cases; and this Court should not assume that it did not do so.

[3b] Petitioner also argues that decisions made by the prosecutor—either in negotiating a plea to some offense lesser than capital murder or in simply declining to charge capital murder—are standardless and will inexorably result in the wanton and freakish imposition of the penalty condemned by the judgment in Furman. I address this

[428 US 225]

point separately because the cases in which no capital offense is charged escape the view of the Georgia Supreme Court and are not considered by it in determining whether a particular sentence is excessive or disproportionate.

Petitioner's argument that prosecutors behave in a standardless fashion in deciding which cases to try as capital felonies is unsupported by any facts. Petitioner simply asserts that since prosecutors have the power not to charge capital felonies they will exercise that power in a standardless fashion. This is untenable. Absent facts to the contrary, it cannot be assumed that prosecutors will be motivated in their charging decision by factors other than the strength of their case and the likelihood that a jury would impose the death penalty if it convicts. Unless prosecutors are incompetent in their judgments, the standards by which they decide whether to charge a capital felony will be the same as those by which the jury will decide the questions of guilt and sentence. Thus defendants will escape the death penalty through prosecutorial charging decisions only because the offense is not sufficiently serious; or because the proof is insufficiently strong. This does not cause the system to be standardless any more than the jury's decision to impose life imprisonment on a defendant whose crime is deemed insufficiently serious or its decision to acquit someone who is probably guilty but whose guilt is not established beyond a reasonable doubt. Thus the prosecutor's charging decisions are unlikely to have removed from the sample of cases considered by the Georgia Supreme Court any which are truly "similar." If the cases really were "similar" in relevant respects, it is unlikely that prosecutors would fail to prosecute them as capital cases; and I am unwilling to assume the contrary.

Petitioner's argument that there is an unconstitutional

[428 US 226]

amount of discretion in the system which separates those suspects who receive the death penalty from those who receive life imprisonment, a lesser penalty, or are acquitted or never charged, seems to be in final analysis an indictment of our entire system of justice. Petitioner has argued, in effect, that no matter how effective the death penalty may be as a punish-

ment, government, created and run as it must be by humans, is inevitably incompetent to administer it. This cannot be accepted as a proposition of constitutional law. Imposition of the death penalty is surely an awesome responsibility for any system of justice and those who participate in it. Mistakes will be made and discriminations will occur which will be difficult to explain. However, one of society's most basic tasks is that of protecting the lives of its citizens and one of the most basic ways in which it achieves the task is through criminal laws against murder. I decline to interfere with the manner in which Georgia has chosen to enforce such laws on what is simply an assertion of lack of faith in the ability of the system of justice to operate in a fundamentally fair manner.

IV

[2b] For the reasons stated in dissent in Roberts v Louisiana, post, at 350, 49 L Ed 2d 974, 96 S Ct 3001, neither can I agree with the petitioner's other basic argument that the death penalty, however imposed and for whatever crime, is cruel and unusual punishment.

I therefore concur in the judgment of affirmance.

Statement of The Chief Justice and Mr. Justice Rehnquist:

We concur in the judgment and join the opinion of Mr. Justice White, agreeing with its analysis that Georgia's system of capital punishment comports with

[428 US 227]

the Court's holding in Furman v Georgia, 408 US 238, 33 L Ed 2d 346, 92 S Ct 2726 (1972).

Mr. Justice Blackmun, concurring in the judgment.

[1d] I concur in the judgment. See Furman v Georgia, 408 US 238, 405–414, 33 L Ed 2d 346, 92 S Ct 2726 (1972) (Blackmun, J., dissenting), and id., at 375, (Burger, C.J., dissenting); id., at 414, (Powell, J., dissenting); id., at 465 (Rehnquist, J., dissenting), 33 L Ed 2d 346, 92 S Ct 2726.

Mr. Justice Brennan, dissenting.*

The Cruel and Unsual Punishments Clause "must draw its meaning from the evolving standards of decency that mark the progress of a maturing society."[1] The opinions of Mr. Justice Stewart, Mr. Justice Powell, and Mr. Justice Stevens today hold that "evolving standards of decency" require focus not on the essence of the death penalty itself but primarily upon the procedures employed by the State to single out persons to suffer the penalty of death. Those opinions hold further that, so viewed, the Clause invalidates the mandatory infliction of the death penalty but not its infliction under sentencing procedures that Mr. Justice Stewart, Mr. Justice Powell, and Mr. Justice Stevens conclude adequately safeguard against the risk that the death penalty was imposed in an arbitrary and capricious manner.

In Furman v Georgia, 408 US 238, 257, 33 L Ed 2d 346, 92 S Ct 2726 (1972)(concurring) I read "evolving standards of decency" as requiring focus upon the essence of the death penalty itself and not primarily or solely upon the procedures under

[428 US 228]

which the determination to inflict the penalty upon a particular person was made. I there said:

* Editor's Note: This opinion also applies to Jurek v Texas (No. 75-5394), p 929, infra, and Proffitt v Florida (No. 75-5706), p 913, infra.

1. Trop v Dulles, 356 US 86, 101, 2 L Ed 2d 630, 78 S Ct 590 (1958) (plurality opinion of Warren, C. J.).

"From the beginning of our Nation, the punishment of death has stirred acute public controversy. Although pragmatic arguments for and against the punishment have been frequently advanced, this longstanding and heated controversy cannot be explained solely as the result of differences over the practical wisdom of a particular government policy. At bottom, the battle has been waged on moral grounds. The country has debated whether a society for which the dignity of the individual is the supreme value can, without a fundamental inconsistency, follow the practice of deliberately putting some of its members to death. In the United States, as in other nations of the western world, 'the struggle about this punishment has been one between ancient and deeply rooted beliefs in retribution, atonement or vengeance on the one hand, and, on the other, beliefs in the personal value and dignity of the common man that were born of the democratic movement of the eighteenth century, as well as beliefs in the scientific approach to an understanding of the motive forces of human conduct, which are the result of the growth of the sciences of behavior during the nineteenth and twentieth centuries.' It is this essentially moral conflict that forms the backdrop for the past changes in and the present operation of our system of imposing death as a punishment for crime." Id., at 296, 33 L Ed 2d 346, 92 S Ct 2726.[2]

That continues to be my view. For the Clause forbidding cruel and unusual punishments under our constitutional

[428 US 229]

system of government embodies in unique degree moral principles restraining the punishments that our civilized society may impose on those persons who transgress its laws. Thus, I too say: "For myself, I do not hesitate to assert the proposition that the only way the law has progressed from the days of the rack, the screw, and the wheel is the development of moral concepts, or, as stated by the Supreme Court . . . the application of 'evolving standards of decency' . . . ."[3]

This Court inescapably has the duty, as the ultimate arbiter of the meaning of our Constitution, to say whether, when individuals condemned to death stand before our Bar, "moral concepts" require us to hold that the law has progressed to the point where we should declare that the punishment of death, like punishments on the rack, the screw, and the wheel, is no longer morally tolerable in our civilized society.[4] My opinion in Furman v Georgia concluded that our civilization and the law had progressed to this point and that therefore the punishment of death, for whatever crime and under all circumstances, is "cruel and unusual" in violation of the Eighth and Fourteenth Amendments of the Constitution. I shall not again canvass the reasons that led to that conclusion. I emphasize only that foremost among the "moral concepts" recognized in

2. Quoting T. Sellin, The Death Penalty, A Report for the Model Penal Code Project of the American Law Institute 15 (1959).

3. Novak v Beto, 453 F2d 661, 672 (CA5 1971) (Tuttle, J., concurring in part and dissenting in part).

4. Tao, Beyond Furman v Georgia: The Need for a Morally Based Decision on Capital Punishment, 51 Notre Dame Law 722, 736 (1976).

our cases and inherent in the Clause is the primary moral principle that the State, even as it punishes, must treat its citizens in a manner consistent with their intrinsic worth as human beings—a punishment must not be so severe as to be degrading to human dignity. A judicial determination

[428 US 230]

whether the punishment of death comports with human dignity is therefore not only permitted but compelled by the Clause. 408 US, at 270, 33 L Ed 2d 346, 92 S Ct 2726.

I do not understand that the Court disagrees that "[i]n comparison to all other punishments today . . . the deliberate extinguishment of human life by the State is uniquely degrading to human dignity." Id., at 291, 33 L Ed 2d 346, 92 S Ct 2726. For three of my Brethren hold today that mandatory infliction of the death penalty constitutes the penalty cruel and unusual punishment. I perceive no principled basis for this limitation. Death for whatever crime and under all circumstances "is truly an awesome punishment. The calculated killing of a human being by the State involves, by its very nature, a denial of the executed person's humanity. . . . An executed person has indeed 'lost the right to have rights.' " Id., at 290, 33 L Ed 2d 346, 92 S Ct 2726. Death is not only an unusually severe punishment, unusual in its pain, in its finality, and in its enormity, but it serves no penal purpose more effectively than a less severe punishment; therefore the principle inherent in the Clause that prohibits pointless infliction of excessive punishment when less severe punishment can adequately achieve the same purposes invalidates the punishment. Id., at 279, 33 L Ed 2d 346, 92 S Ct 2726.

The fatal constitutional infirmity in the punishment of death is that it treats "members of the human race as nonhumans, as objects to be toyed with and discarded. [It is] thus inconsistent with the fundamental premise of the Clause that even the vilest criminal remains a human being possessed of common human dignity." Id., at 273, 33 L Ed 2d 346, 92 S Ct 2726. As such it is a penalty that "subjects the individual to a fate forbidden by the principle of civilized treatment guaranteed by the [Clause]."[5] I therefore would hold,

[428 US 231]

on that ground alone, that death is today a cruel and unusual punishment prohibited by the Clause. "Justice of this kind is obviously no less shocking than the crime itself, and the new 'official' murder, far from offering redress for the offense committed against society, adds instead a second defilement to the first."[6]

I dissent, from the judgments in No. 74-6257, Gregg v Georgia, No. 75-5706, Proffitt v Florida, and No. 75-5394, Jurek v Texas, insofar as each upholds the death sentences challenged in those cases. I would set aside the death sentences imposed in those cases as violative of

5. Trop v Dulles, 356 US, at 99, 2 L Ed 2d 630, 78 S Ct 590 (plurality opinion of Warren, C. J.).

6. A. Camus, Reflections on the Guillotine 5–6 (Fridtjof-Karla Pub 1960).

the Eighth and Fourteenth Amendments.

Mr. Justice Marshall, dissenting.*

In Furman v Georgia, 408 US 238, 314, 33 L Ed 2d 346, 92 S Ct 2726 (1972) (concurring), I set forth at some length my views on the basic issue presented to the Court in these cases. The death penalty, I concluded, is a cruel and unusual punishment prohibited by the Eighth and Fourteenth Amendments. That continues to be my view.

I have no intention of retracing the "long and tedious journey," id, at 370, 33 L Ed 2d 346, 92 S Ct 2726, that led to my conclusion in Furman. My sole purposes here are to consider the suggestion that my conclusion in Furman has been undercut by developments since then, and briefly to evaluate the basis for my Brethren's holding that the extinction of life is a permissible form of punishment under the Cruel and Unusual Punishments Clause.

In Furman I concluded that the death penalty is constitutionally invalid for two reasons. First, the death penalty is excessive. Id., at 331–332, 342–359, 33 L Ed 2d 346, 92 S Ct 2726. And

[428 US 232]

second, the American people, fully informed as to the purposes of the death penalty and its liabilities, would in my view reject it as morally unacceptable. Id., at 360–369, 33 L Ed 2d 346, 92 S Ct 2726.

Since the decision in Furman, the legislatures of 35 States have enacted new statutes authorizing the imposition of the death sentence for certain crimes, and Congress has enacted a law providing the death penalty for air piracy resulting in death. 49 USC §§ 1472(i), (n)(1970 ed, Supp IV) [49 USCS §§ 1472(i), (n)]. I would be less than candid if I did not acknowledge that these developments have a significant bearing on a realistic assessment of the moral acceptability of the death penalty to the American people. But if the constitutionality of the death penalty turns, as I have urged, on the opinion of an *informed* citizenry, then even the enactment of new death statutes cannot be viewed as conclusive. In Furman, I observed that the American people are largely unaware of the information critical to a judgment on the morality of the death penalty, and concluded that if they were better informed they would consider it shocking, unjust, and unacceptable. 408 US, at 360–369, 33 L Ed 2d 346, 92 S Ct 2726. A recent study, conducted after the enactment of the post-Furman statutes, has confirmed that the American people know little about the death penalty, and that the opinions of an informed public would differ significantly from those of a public unaware of the consequences and effects of the death penalty.[1]

Even assuming, however, that the post-Furman enactment of statutes authorizing the death penalty renders the prediction of the views of an informed citizenry an

[428 US 233]

uncertain basis for a constitutional decision, the enactment of those statutes has no bearing whatsoever on the conclusion that the death penalty is unconstitutional because it is excessive. An excessive penalty is invalid under the Cruel and Unusual Punishments Clause "even though popular senti-

* Editor's Note: This opinion also applies to Jurek v Texas (No. 75-5394), p 929, infra, and Proffitt v Florida (No. 75-5706), p 913, infra.

1. Sarat & Vidmar, Public Opinion, The Death Penalty, and the Eighth Amendment: Testing the Marshall Hypothesis, 1976 Wis L Rev 171.

ment may favor" it. Id., at 331, 33 L Ed 2d 346, 92 S Ct 2726; ante, at 173, 182–183, 49 L Ed 2d 874–875. (opinion of Stewart, Powell, and Stevens, JJ.); Roberts v Louisiana, post, at 353–354, 49 L Ed 2d 974, 96 S Ct 3001 (White, J., dissenting). The inquiry here, then, is simply whether the death penalty is necessary to accomplish the legitimate legislative purposes in punishment, or whether a less severe penalty—life imprisonment—would do as well. Furman, supra, at 342, 33 L Ed 2d 346, 92 S Ct 2726 (Marshall, J., concurring).

The two purposes that sustain the death penalty as nonexcessive in the Court's view are general deterrence and retribution. In Furman, I canvassed the relevant data on the deterrent effect of capital punishment. 408 US, at 347–354, 33 L Ed 2d 346, 92 S Ct 2726.[2] The state of knowledge at that point, after literally centuries of debate, was summarized as follows by a United Nations Committee:

> "It is generally agreed between the retentionists and abolitionists, whatever their opinions about the validity of comparative studies of deterrence, that the data which now exist show no correlation between the existence of capital punishment and lower rates of capital crime."[3]

The available evidence, I concluded in Furman, was convincing that "capital punishment is not necessary as a deterrent to crime in our society." Id., at 353, 33 L Ed 2d 346, 92 S Ct 2726.

The Solicitor General in his amicus brief in these cases

[428 US 234]

relies heavily on a study by Isaac Ehrlich,[4] reported a year after Furman, to support the contention that the death penalty does deter murder. Since the Ehrlich study was not available at the time of Furman and since it is the first scientific study to suggest that the death penalty may have a deterrent effect, I will briefly consider its import.

The Ehrlich study focused on the relationship in the Nation as a whole between the homicide rate and "execution risk"—the fraction of persons convicted of murder who were actually executed. Comparing the differences in homicide rate and execution risk for the years 1933 to 1969, Ehrlich found that increases in execution risk were associated with increases in the homicide rate.[5] But when he employed the statistical technique of multiple regression analysis to control for the influence of other variables posited to have an impact on the homicide rate,[6] Ehrlich found a negative correlation between changes in the homicide rate and changes in execution risk. His tentative conclusion was that for the period from 1933 to 1967 each additional execution in the

2. See e.g., T. Sellin, The Death Penalty, A Report for the Model Penal Code Project of the American Law Institute (1959).

3. United Nations, Department of Economic and Social Affairs, Capital Punishment, pt II, ¶ 159, p 123 (1968).

4. I. Ehrlich, The Deterrent Effect of Capital Punishment: A Question of Life and Death (Working Paper No. 18, National Bureau of Economic Research, Nov. 1973); Ehrlich, The Deterrent Effect of Capital Punishment: A Question of Life and Death, 65 Am Econ Rev 397 (June 1975).

5. Id., at 409.

6. The variables other than execution risk included probability of arrest, probability of conviction given arrest, national aggregate measures of the percentage of the population between age 14 and 24, the unemployment rate, the labor force participation rate, and estimated per capita income.

United States might have saved eight lives.[7]

The methods and conclusions of the Ehrlich study

[428 US 235]

have been severely criticized on a number of grounds.[8] It has been suggested, for example, that the study is defective because it compares execution and homicide rates on a nationwide, rather than a state-by-state, basis. The aggregation of data from all States—including those that have abolished the death penalty—obscures the relationship between murder and execution rates. Under Ehrlich's methodology, a decrease in the execution risk in one State combined with an increase in the murder rate in another State would, all other things being equal, suggest a deterrent effect that quite obviously would not exist. Indeed, a deterrent effect would be suggested if, once again all other things being equal, one State abolished the death penalty and experienced no change in the murder rate, while another State experienced an increase in the murder rate.[9]

The most compelling criticism of the Ehrlich study is

[428 US 236]

that its conclusions are extremely sensitive to the choice of the time period included in the regression analysis. Analysis of Ehrlich's data reveals that all empirical support for the deterrent effect of capital punishment disappears when the five most recent years are removed from his time series—that is to say, whether a decrease in the execution risk corresponds to an increase or a decrease in the murder rate depends on the ending point of the sample period.[10] This finding has cast severe doubts on the reliability of Ehrlich's tentative conclusions.[11] Indeed, a recent regression study, based on Ehrlich's theoretical model but using cross-section state data for the years 1950 and 1960, found no support for the conclusion that executions act as a deterrent.[12]

The Ehrlich study, in short, is of little, if any, assistance in assessing the deterrent impact of the death penalty. Accord, Commonwealth v O'Neal, — Mass —, —, 339 NE2d 676, 684 (1975). The evidence I reviewed in Furman[13] remains convincing, in my view, that "capital punishment is not

7. Id., at 398, 414.

8. See Passell & Taylor, The Deterrent Effect of Capital Punishment: Another View (unpublished Columbia University Discussion Paper 74-7509, Mar. 1975), reproduced in Brief for Petitioner App E in Jurek v Texas No. 75-5844, OT 1975; Passell, The Deterrent Effect of the Death Penalty: A Statistical Test, 28 Stan L Rev 61 (1975); Baldus & Cole, A Comparison of the Work of Thorsten Sellin & Isaac Ehrlich on the Deterrent Effect of Capital Punishment, 85 Yale LJ 170 (1975); Bowers & Pierce, The Illusion of Deterrence in Isaac Ehrlich's Research on Capital Punishment, 85 Yale LJ 187 (1975); Peck, The Deterrent Effect of Capital Punishment: Ehrlich and His Critics, 85 Yale LJ 359 (1976). See also Ehrlich, Deterrence: Evidence and Inference, 85 Yale LJ 209 (1975); Ehrlich, Rejoinder, 85 Yale LJ 368 (1976). In addition to the items discussed in text, criticism has been directed at the quality of Ehrlich's data, his choice of explanatory variables, his failure to account for the interdependence of those variables, and his assumptions as to the mathematical form of the relationship between the homicide rate and the explanatory variables.

9. See Baldus & Cole, supra, at 175–177.

10. Bowers & Pierce, supra, n 8, at 197–198. See also Passell & Taylor, supra, n 8, at 2–66—2–68.

11. See Bowers & Pierce, supra, n 8, at 197–198; Baldus & Cole, supra, n 8, at 181, 183–185; Peck, supra, n 8, at 366–367.

12. Passell, supra, n 8.

13. See also Bailey, Murder and Capital Punishment: Some Further Evidence, 45 Am J Orthopsychiatry 669 (1975); W. Bowers, Executions in America 121–163 (1974).

necessary as a deterrent to crime in our society." 408 US, at 353, 33 L Ed 2d 346, 92 S Ct 2726. The justification for the death penalty must be found elsewhere.

The other principal purpose said to be served by the death penalty is retribution.[14] The notion that retribution

[428 US 237]

can serve as a moral justification for the sanction of death finds credence in the opinion of my Brothers Stewart, Powell, and Stevens, and that of my Brother White in Roberts v Louisiana post, p 337, 49 L Ed 2d 974, 96 S Ct 3001. See also Furman v Georgia, 408 US, at 394–395, 33 L Ed 2d 346, 92 S Ct 2726 (Burger, C. J., dissenting). It is this notion that I find to be the most disturbing aspect of today's unfortunate decisions.

The concept of retribution is a multifaceted one, and any discussion of its role in the criminal law must be undertaken with caution. On one level, it can be said that the notion of retribution or reprobation is the basis of our insistence that only those who have broken the law be punished, and in this sense the notion is quite obviously central to a just system of criminal sanctions. But our recognition that retribution plays a crucial role in determining who may be punished by no means requires approval of retribution as a general justification for punishment.[15] It is the question whether retribution can provide a moral justification for punishment —in particular, capital punishment —that we must consider.

My Brothers Stewart, Powell, and Stevens offer the following explanation of the retributive justification for capital punishment:

> " 'The instinct for retribution is part of the nature of man, and channeling that instinct in the administration of criminal justice serves an important purpose in promoting the stability of a society governed
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> [428 US 238]
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> by law. When people begin to believe that organized society is unwilling or unable to impose upon criminal offenders the punishment they "deserve," then there are sown the seeds of anarchy—of self-help, vigilante justice, and lynch law.' " Ante, at 183, 49 L Ed 2d 880, quoting from Furman v Georgia, supra, at 308, 33 L Ed 2d 346, 92 S Ct 2726 (Stewart, J., concurring).

This statement is wholly inadequate to justify the death penalty. As my Brother Brennan stated in Furman, "[t]here is no evidence whatever that utilization of imprisonment rather than death encourages private blood feuds and other disorders." 408 US, at 303, 33 L Ed 2d 346, 92 S Ct 2726 (concurring).[16] It simply defies belief to suggest that the death penalty is necessary to pre-

14. In Furman, I considered several additional purposes arguably served by the death penalty. 408 US, at 314, 342, 355–358, 33 L Ed 2d 346, 92 S Ct 2726. The only additional purpose mentioned in the opinions in these cases is specific deterrence—preventing the murderer from committing another crime. Surely life imprisonment and, if necessary, solitary confinement would fully accomplish this purpose. Accord, Commonwealth v O'Neal, —— Mass ——, ——, 339 NE2d 676, 685 (1975); People v Anderson, 6 Cal 3d 628, 651, 493 P2d 880, 896, cert denied, 406 US 958, 32 L Ed 2d 344, 92 S Ct 2060 (1972).

15. See, e. g., H. Hart, Punishment and Responsibility 8–10, 71–83 (1968); H. Packer, Limits of the Criminal Sanction 38–39, 66 (1968).

16. See Commonwealth v O'Neal, supra, at 236, 339 NE2d, at 687; Bowers, supra, n 13, at 335; Sellin, supra, n 2, at 79.

vent the American people from taking the law into their own hands.

In a related vein, it may be suggested that the expression of moral outrage through the imposition of the death penalty serves to reinforce basic moral values—that it marks some crimes as particularly offensive and therefore to be avoided. The argument is akin to a deterrence argument, but differs in that it contemplates the individual's shrinking from antisocial conduct, not because he fears punishment, but because he has been told in the strongest possible way that the conduct is wrong. This contention, like the previous one, provides no support for the death penalty. It is inconceivable that any individual concerned about conforming his conduct to what society says is "right" would fail to realize that murder is "wrong" if the penalty were simply life imprisonment.

The foregoing contentions—that society's expression of moral outrage through the imposition of the death penalty pre-empts the citizenry from taking the law into its

[428 US 239]

own hands and reinforces moral values—are not retributive in the purest sense. They are essentially utilitarian in that they portray the death penalty as valuable because of its beneficial results. These justifications for the death penalty are inadequate because the penalty is, quite clearly I think, not necessary to the accomplishment of those results.

There remains for consideration, however, what might be termed the purely retributive justification for the death penalty—that the death penalty is appropriate, not because of its beneficial effect on society, but because the taking of the murderer's life is itself morally good.[17] Some of the language of the opinion of My Brothers Stewart, Powell, and Stevens in No. 74–6257 appears positively to embrace this notion of retribution for its own sake as a justification for capital punishment.[18] They state:

> "[T]he decision that capital punishment may be the appropriate sanction in extreme cases is an expression of the community's belief that certain crimes are themselves so grievous an affront to humanity that the only adequate response may be the penalty of death." Ante, at 184, 49 L Ed 2d 880–881 (footnote omitted).

[428 US 240]

The plurality then quotes with approval from Lord Justice Denning's remarks before the British Royal Commission on Capital Punishment:

> " 'The truth is that some crimes are so outrageous that society insists on adequate punishment, because the wrong-doer deserves it, irrespective of whether it is a deterrent or not.' " Ante, at 184, n 30, 49 L Ed 2d 881.

Of course, it may be that these statements are intended as no more than observations as to the popular

17. See Hart, supra, n 15, at 72, 74–75, 234–235; Packer, supra, n 15, at 37–39.

18. Mr. Justice White's view of retribution as a justification for the death penalty is not altogether clear. "The widespread reenactment of the death penalty," he states at one point; "answers any claims that life imprisonment is adequate punishment to satisfy the need for reprobation or retribution." Roberts v Louisiana, post, at 354, 49 L Ed 2d 974, 96 S Ct 3001 (White, J., dissenting). But Mr. Justice White later states: "It will not do to denigrate these legislative judgments as some form of vestigial savagery or as purely retributive in motivation; for they are solemn judgments, reasonably based, that imposition of the death penalty will save the lives of innocent persons." Post, at 355, 49 L Ed 2d 974.

demands that it is thought must be responded to in order to prevent anarchy. But the implication of the statements appears to me to be quite different—namely, that society's judgment that the murderer "deserves" death must be respected not simply because the preservation of order requires it, but because it is appropriate that society make the judgment and carry it out. It is this latter notion, in particular, that I consider to be fundamentally at odds with the Eighth Amendment. See Furman v Georgia, 408 US, at 343–345, 33 L Ed 2d 346, 92 S Ct 2726 (Marshall, J., concurring). The mere fact that the community demands the murderer's life in return for the evil he has done cannot sustain the death penalty, for as the plurality reminds us, "the Eighth Amendment demands more than that a challenged punishment be acceptable to contemporary society." Ante, at 182, 49 L Ed 2d 880. To be sustained under the Eighth Amendment, the death penalty must "[comport] with the basic concept of human dignity at the core of the Amendment," ibid.; the objective of imposing it must be "[consistent] with our respect for the dignity of [other] men." Ante, at 183, 49 L Ed 2d 880. See Trop v Dulles, 356 US 86, 100, 2 L Ed 2d 630, 78 S Ct 590 (1958)(plurality opinion). Under these standards, the taking of life "because the wrongdoer deserves it" surely must fall, for such a punishment

[428 US 241]

has as its very basis the total denial of the wrongdoer's dignity and worth.[19]

The death penalty, unnecessary to promote the goal of deterrence or to further any legitimate notion of retribution, is an excessive penalty forbidden by the Eighth and Fourteenth Amendments. I respectfully dissent from the Court's judgment upholding the sentences of death imposed upon the petitioners in these cases.

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19. See Commonwealth v O'Neal, supra, at 236, 339 NE2d, at 687; People v Anderson 6 Cal 3d, at 651, 493 P2d, at 896.

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General arguments for and against the death penalty

Deterrence

An argument commonly used in support of capital punishment is that it acts as a deterrent to violent crime. However, detailed research in the USA and other countries has provided no evidence that the death penalty deters crime more effectively than other punishments. In some countries, the number of homicides actually declined after abolition. In Canada, for example, the murder rate fell from 3.09 per 100,000 in 1975 (the year before abolition) to 2.74 in 1983.[1] A United Nations study published in 1980 found that: "Despite much more advanced research efforts mounted to determine the deterrent value of the death penalty, no conclusive evidence has been obtained on its efficacy."[2]

US studies have shown that, under past and present death penalty statutes, the murder rate in death penalty states has differed little from that in other states with similar populations and social and economic conditions.

One of the first to conduct research in this field was Thorsten Sellin, who compared homicide rates from 1920 to 1974 in groups of contiguous US abolitionist and retentionist states with similar social and demographic characteristics. He found that most of these states had similar homicide rates. The rates were unaffected by changes such as the abolition or reintroduction of the death penalty in some states. He found that, where a difference existed, abolitionist states (particularly those which had not had the death penalty over a long

1. A study published in 1983 examined short, medium and long-term homicide rates in 14 countries after they had abolished the death penalty and found that more than half the countries showed a decline in homicides after abolition. It also examined data to see whether homicide rates had fallen more slowly than other crimes, and found that this was not so. Dane Archer, Rosemary Gartner and Marc Beittel, "Homicide and the Death Penalty: A Cross National Test of a Deterrence Hypothesis", *Journal of Criminal Law and Criminology*, vol. 74, 1983, pp. 991-1013.

2. *Capital Punishment: Working Paper Prepared by the Secretariat*, Sixth United Nations Congress on the Prevention of Crime and the Treatment of Offenders, Caracas, Venezuela, 25 August to 5 September 1980. A-CONF. 87-9, para 65.

period) tended to have lower homicide rates than retentionist states.[3]

The relative homicide rates of many of the neighbouring states studied by Sellin and other researchers before 1974 remain similar in the 1980s. For example, the states of Virginia, Washington and Vermont, each of which have the death penalty, had higher homicide rates in 1983 than their neighbouring abolitionist states of West Virginia, Oregon and Maine. North Dakota, a state without the death penalty, had an almost identical homicide rate to the neighbouring death penalty state of South Dakota.

Some research has suggested that the use of the death penalty may even increase the crime rate. William J. Bowers and Glenn L. Pierce analyzed monthly homicide rates from 1907 to 1963 in New York State (which carried out more executions than any other state during this period). They found that there had been, on average, two additional homicides in the month after an execution. They suggested that this momentary rise in homicides might be due to a "brutalizing" effect of executions, similar to the effect of other violent events such as publicized suicides, mass murders and assassinations.[4] Although their findings are not conclusive, similar findings have been made by other studies.[5] A rise in homicides has occurred in other jurisdictions after executions, including Florida after 1979 (see below).

Opinion polls indicate that public support for capital punishment in the USA, which had been declining, increased significantly during the 1970s. This is believed to have been in response to a marked increase in violent crime during the past 25 years. Between 1960 and 1974, after a period of relative stability in the 1950s, the US homicide rate doubled from 4.7 to 9.8 murders per 100,000 people. The rate rose again nationally (by seven to 11 per cent, depending on region) in 1978 and 1979. There was an increase from 21,460 reported homicides in 1979 to 23,000 homicides in 1980.

One of the few studies purporting to show that the death penalty had a special deterrent effect was published by Isaac Ehrlich in 1975. He measured the aggregate number of homicides in the USA for each year from 1933 to 1969 against a range of variables he thought likely to affect the homicide rate, including unemployment and per

3. Thorsten Sellin, "The Death Penalty", *Philadelphia: The American Law Institute, 1959* and *The Sage Library of Social Research*, vol. 102, 1980

4. William J. Bowers and Glenn L. Pierce, "Deterrence or Brutalization: What is the Effect of Executions?", *Crime and Delinquency*, Oct. 1980, pp. 453-484.

5. A monthly time-series analysis of executions and first-degree murders in Chicago, Illinois, from 1915 to 1921, produced findings consistent with those of Bowers and Pierce: William C. Bailey, "Disaggregation in Deterrence and Death Penalty Research: The Case of Murder in Chicago", *The Journal of Criminal Law and Criminology*, vol. 74, No. 3, 1983, pp. 827-859.

capita income rates, demographic factors, arrest, conviction and execution rates. By using a complex econometric approach, he concluded that each execution had deterred seven to eight murders that would otherwise have occurred.[6] His findings (which were contrary to all previous studies) roused considerable attention at the time, and were included in an *amicus curiae* brief filed by the US Solicitor General in a death penalty case then pending before the Supreme Court.[7]

However, the overwhelming majority of studies on deterrence conducted after 1975 discredit Ehrlich's findings. Several studies, using his method of analysis, found that his inclusion of the five years from 1964 to 1969 — when homicide rates almost doubled and executions virtually ceased — had produced a distorted statistical effect on his overall findings. When these years were removed from the analysis, the effect of executions on the homicide rate disappeared. These and other studies found that the rise in homicides after 1960 was unrelated to the decline in the use of the death penalty (see below). Ehrlich was found, among other things, to have omitted some important factors from his analysis, such as the relative rates of other crimes, the incidence of gun ownership and the length of prison terms. He had also failed to take account of the relative homicide rates in states which had never had the death penalty and those which (in the 1960s) had only recently ceased to use it. In presenting aggregate data, Ehrlich had also failed to account for possible differences between states in the causes of murder.[8]

Other studies analysing relative crime rates during this period have found that the sharpest increase after 1960 was largely confined to a few states only: those with rapidly growing urban ghetto populations

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6. Isaac Ehrlich, "The Deterrent Effect of Capital Punishment: A Question of Life and Death", *American Economic Review*, 65(3): 387-417, 1975. Ehrlich's analysis was based on the theory that the act of murder depends on the relative "costs" and "benefits" perceived by the potential murderer in response to factors such as unemployment and poverty (which may lead to crimes involving homicides) and the probability of apprehension, conviction and execution. He used complex mathematical equations to measure each variable against the aggregate annual US homicide rates in an attempt to isolate the effect of executions.

7. *Fowler* v. *North Carolina*, 96 s. Ct. 3212 (1976).

8. Major challenges to Ehrlich's work include: William J. Bowers and Glenn L. Pierce, "The Illusion of Deterrence in Isaac Ehrlich's Research on Capital Punishment", *The Yale Law Journal* 85(2), pp. 187-208, 1975; Peter Passell and John Taylor, "The Deterrent Effect of Capital Punishment: Another View", *American Economic Review* 67(3), pp. 445-451, 1977; Lawrence Klein, Brian Forst and Victor Filatov, "The Deterrent Effect of Capital Punishment: An Assessment of the Estimates", in *Deterrence and Incapacitation: Estimating the Effects of Criminal Sanctions on Crime Rates*, edited by A. Blumstein, J. Cohen and D. Nagin; Washington, DC: National Academy of Sciences, 1978, pp. 336-360).

(such as Michigan, Illinois and parts of the Pacific West).[9] States in which the use of the death penalty had declined after the 1950s showed no greater increase in homicides than states which had never had the death penalty.[10] Were the death penalty to act as a unique deterrent to violent crime, a faster increase would be expected in states where the death penalty had previously been available. Moreover, other crimes increased faster than homicides during this period. Federal Bureau of Investigation (FBI) crime statistics for the years 1960 to 1970 show, for example, that while murders and non-negligent manslaughters increased by 74 per cent during this period, burglaries increased by 142 per cent, car thefts by 183 per cent and larcenies by 245 per cent.[11]

There was also an increase in the 15- to 30-year age group among the general population after 1960, following the post-war birth boom. Youths from their mid-teens to late 20s have been found more likely to commit crimes than any other sector of the population. Males between the ages of 15 and 24, for example, accounted for 44 per cent of homicide arrests during the 1970s; men aged from 18 to 30 were also most likely to be the victims of homicides. The increase in these crime-prone age groups together with the rise in urban populations (and an increase in poverty and unemployment in some areas) are believed to have contributed significantly to the overall rise in crime during this period.

Other factors leading to an increase in homicides must also include the availability of handguns, possession of which quadrupled between 1962 and 1968. Between 1961 and 1970, murders in which firearms were used more than doubled, rising from 2.5 to 6.1 per 100,000 of the population.[12]

It has also been suggested that the increased crime rate may have led to a lower rate of detection as pressures on law enforcement

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9. See Daniel Glaser, "Capital Punishment — Deterrent or Stimulus to Murder? Our Unexamined Deaths and Penalties", *University of Toledo Law Review*, 10(2), pp. 317-333, 1979. (In this article Glaser examines various factors contributing to the rise in crime in the 1960s and 1970s.)

10. Brian Forst, "The Deterrent Effect of Capital Punishment: A Cross-State Analysis of the 1960s", *Minnesota Law Review*, 61(5): 743-767, 1977.

11. Figures taken from FBI Uniform Crime Reports, cited in Klein, Forst and Filatov, "The Deterrent Effect of Capital Punishment" (*op. cit.*).

12. Figures on the 1961 to 1970 increase in firearms murders given by D.P. Phillips (1973) cited in Klein, Forst and Filatov's "The Deterrent Effect of Capital Punishment" (*op. cit.*). The same article also cites a 1969 study by Newton and F.E. Zimring, indicating that the rise in handgun possession contributed to the rise in homicides in the 1960s. See also Gary Kleck, "Capital Punishment and Gun Ownership, and Homicide", *American Journal of Sociology* 84(4), 1979, pp. 882-910.

agencies grew, thus lessening the deterrent effect of any punishment. Statistics show that the rise in crime during the 1960s was accompanied by a drop in the US prison population. There is also evidence that the time served by convicted murderers in prison fell during the 1960s. A study conducted in the late 1970s found that, although the arrest rate for homicides in the USA was high compared to other crimes, the time served in prison (both for homicides and other offences that often result in homicides) had declined in the 10 years from 1960 to 1970: a higher proportion of convicted homicide offenders released in 1970 had served less than five years than similar offenders released in 1960. The research team suggested that lenient prison sanctions, rather than the absence of the death penalty, had contributed to the rise in homicides.[13]

It is also noteworthy that the national homicide rate rose considerably during the economic depression in the 1930s, reaching almost as high a level as in the mid-1970s, despite the high number of executions in most areas during this period.[14] After the 1930s, when the use of the death penalty started to decline, the murder rate did not rise, but declined, remaining at a relatively stable level until the early 1960s.

Recent crime trends

Statistics from the US Justice Department reveal that, nationally, homicides dropped from 23,000 in 1980 to 19,000 in 1983 and declined by a further five per cent in 1984 to 18,050. There was a corresponding fall in most other crimes during this period. The general fall in crime is believed to be due partly to a fall in the number of men in the high crime age groups and partly to an increase in the length of prison terms imposed on convicted offenders. At the end of 1984 there were twice as many people in prison as in 1972, due largely to an increase in the length of sentences and time served.[15]

There is no evidence that the resumption of executions in some states contributed in any way to the fall in homicides (which appears to have levelled off or even decreased in the period 1984 to 1985). In fact, the two states which have carried out the most executions since 1979 — Florida and Georgia — had an increase in homicides in the period immediately following the resumption of executions.

Florida had carried out no executions for nearly 15 years when John Spenkelink was executed in May 1979. Although the murder rate had risen in the late 1960s and early 1970s, in line with the national trend, the three years 1976, 1977 and 1978 had the lowest murder rates on record in the state. However, the three years following the resumption of executions (1980, 1981 and 1982) had the highest murder rates in the state's recent history, with a 28 per cent increase in homicides in 1980 (see Appendix 7). Although the homicide rate fell in 1982 and 1983, it remained higher than in the period immediately before 1979, and rose again slightly in 1984.

In Georgia (where executions resumed in 1983), the homicide rate increased by 20 per cent in 1984, a year in which the national homicide rate fell by five per cent. Although these samples are too small to prove that the death penalty actually increases the rate of homicide, they at least do not show that the homicide rate falls when the death penalty is reintroduced.

Limiting capital crimes

Some government officials have expressed the belief that the death penalty, while having no special deterrent effect on homicides as a whole, should nevertheless be retained for certain categories of murder. The most commonly cited crimes were murders of police or prison officers and murders committed by prisoners already serving life sentences for homicide.

Yet there is no evidence that the death penalty has a special deterrent effect on this type of crime. Police and prison officers are not murdered more frequently in the states which have abolished the death penalty; in the United Kingdom and other countries, there was no increase in the rate of police killings after the abolition of the death penalty.[16] Murders of police officers are often "spontaneous", committed when the perpetrator is surprised in the course of

13. Klein, Forst and Filatov, "The Deterrent Effect of Capital Punishment", 1978 (*op. cit.*). Their study examined cross-state data over several periods.

14. Daniel Glaser, in an article in the *Toledo Law Review*, 1979 (*op. cit.*), cited US Public Health Service compilations showing the annual homicide rate in the early 1930s exceeded nine per 100,000. FBI records, based on police reports, show a rate of 7.1 per 100,000 in 1933 (the first year that such records were kept).

15. The *Washington Post* reported on 18 August 1985 that there were 463,000 people in prison at the end of 1984, compared with 196,000 12 years previously. The increase in the number of prisoners started in the mid-1970s. During this period several states introduced mandatory life terms for habitual offenders, and there is evidence that the length of other sentences and time served in prison in most states also increased.

16. Thorsten Sellin compared US cities with populations of more than 10,000 in six abolitionist and 11 retentionist states between 1919 and 1954 and found that the rate of police homicides was slightly lower in abolitionist states. ("The Death Penalty and Police Safety", *Minutes of Proceedings and Evidence of the Joint Committee of the Senate and the House of Commons on Capital and Corporal Punishment*, No. 20, Ottawa Queen's Printer, Ottawa, 1955, pp. 718-728.) In a later comparison of police killings in 1975, Sellin found that risk rates were still generally lower in abolitionist states ("The Penalty of Death", *Sage Library of Social Research*, vol. 102, 1980, pp. 171-172).

committing another crime and is unlikely to be deterred by the thought of the death penalty. There is no evidence that the death penalty has deterred criminals from carrying potential murder weapons, and tighter gun laws and arms control would probably be far more effective in this regard.

FBI crime reports for 1970 to 1979 showed that killings of state and federal police officers amounted to a tiny fraction (0.006 per cent) of all murders reported for these years and that nearly one in seven of the killers were themselves killed by the police.[17]

A 1981 study of US prison murders committed by inmates serving life sentences showed that the murder rate differed little among states with and without death penalty laws.[18] The study also found that prison murders tended to be either spontaneous (and thus unlikely to be deterred by the punishment) or carefully planned against other inmates for retributive purposes, in circumstances in which the prisoner was unlikely to get caught (in about a third of the prison murders studied, the assailant was, in fact, unidentified).

Opinion polls show that many members of the public favour retaining the death penalty for especially heinous murders, such as those against children or "serial murders" (a series of apparently motiveless murders committed over a period of time). However, these types of killings are among the least likely to be deterred by any penalty. The most appalling and senseless killings are most likely to be committed by people who are seriously mentally disturbed and incapable of considering the consequences of their actions: some may even have "suicidal" tendencies and may actually wish to be executed.[19]

Recidivism

It has been argued that, even if the death penalty has no special effect in deterring others, the execution of the worst offenders is needed to protect society from the risk of their repeating their crimes.

However, the evidence suggests that, among offenders released on parole, convicted murderers present one of the lowest risks of

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17. Figures cited in Bedau, *The Death Penalty in America*, taken from the *Uniform Crime Reports 1970-1979*.

18. Wendy Phillips Wolfson: *The Deterrent Effect of the Death Penalty upon Prison Murder*, reproduced in Bedau, *op. cit.*

19. Clinical studies by psychiatrists have revealed examples of suicidal murderers: people who are afraid to take their own lives and kill in the hope — subconsciously or otherwise — that their own lives will be taken by the state. See articles by Diamond, "Murder and the Death Penalty", and Solomon, "Capital Punishment as Suicide and Murder", both published in the *American Journal of Orthopsychiatry*, vol. 45, No. 44, July 1975, pp. 701-711, 712-722.

recidivism. In Michigan (a state without the death penalty), over 400 inmates serving life sentences for murder were released on parole between 1938 and 1972, after serving an average of 22 years in prison. Not one had committed another murder by 1976 (the year in which the figures were released). In California, a 10-year study of 342 first-degree murderers paroled after an average of 11 years in prison showed that 90 per cent completed parole successfully. Only one was subsequently convicted of criminal homicide.

The above figures are taken from research on recidivism by Hugo Adam Bedau, who found that, of 2,646 murderers released in 12 states during the years 1900 to 1976 inclusive, only 16 were returned for conviction of a subsequent criminal homicide. Commenting on his findings, Bedau stated:

> ". . . Both with regard to the commission of felonies generally and the crime of homicide, no other class of offender has such a low rate of recidivism. So we are left to choose among clear alternatives. If we cannot improve release and parole procedures so as to turn loose *no one* who will commit a further murder or other felony, we have three choices. Either we can undertake to *execute every* convicted murderer; or we can undertake to *release none* of them; or we can reconcile ourselves to the fact that release procedures, like all other human institutions, are not infallible, and continue to try to improve rehabilitation and prediction during incarceration."[20] (emphasis in original)

Other punishments may, in fact, be equally effective in protecting society from the small proportion of offenders convicted of capital crimes who are sentenced to death. The death penalty laws introduced in the 1970s included maximum alternative penalties for convicted capital offenders who did not receive the death penalty. Many of the statutes now provide mandatory minimum terms of 25 years' imprisonment before capital offenders serving life sentences may be even considered for parole, which is by no means automatic in such cases. Other states have introduced alternative penalties of life without parole.[21]

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20. Bedau, *The Death Penalty in America*, pp. 175-176, 180.

21. It may be noted, however, that some countries without the death penalty do not impose sentences of life imprisonment without parole. For example, in the United Kingdom, which has effectively abolished the death penalty for peacetime offences, procedures for executive review apply to all cases. In other countries, there is a maximum term of imprisonment, imprisonment for life having been abolished. In some US states sentences of life without parole may still be subject to executive review, although there is no minimum period after which the prisoner is to be considered for parole.

Although the death penalty has been supported by some people on the grounds that executions serve to "incapacitate" even a small proportion of offenders, it is doubtful whether this is the most effective means of doing so. It has been suggested that the death penalty may actually reduce the number of murderers serving maximum alternative penalties for their crimes, by encouraging guilty pleas to lesser charges. As noted earlier in this report, the cost and length of capital proceedings may discourage prosecutors from seeking first-degree murder indictments in many cases.

This latter argument is without regard to the possibility, mentioned above, that the death penalty may actually encourage murder by its brutalizing effect.

Costs of the death penalty

The death penalty in the USA is extremely costly. The US Supreme Court has recognized that — given the unique finality of the penalty — capital cases require greater procedural safeguards against possible error than other cases. The two-phased trial, automatic state review, post-conviction hearings and petitions to the Supreme Court which are routine in capital cases, mean that they cost far more than ordinary criminal proceedings in terms both of time and money. Jury selection and pre-trial motions also take longer in capital trials and issues such as insanity claims are also more likely to be raised at this stage in such cases, requiring experts to be retained to give psychiatric testimony for the state and defence. A 1982 study in New York calculated the cost of reinstating the death penalty there and concluded that the average capital trial and first stage of appeals would cost the tax-payer about $1.8 million, more than twice as much as it cost to keep a person in prison for life.[22] Added to this must be the cost of maintaining maximum security on death rows, clemency hearings and the execution itself.

A number of judges, prosecutors and other law officials oppose the death penalty on precisely these grounds, believing that the enormous concentration of judicial services on a relative handful of cases (many of which will, in any event, result in life imprisonment)

22. *Capital Losses: the Price of the Death Penalty for New York State*, a report from the New York State Defence Association to the Senate Finance Committee and other sections of the legislature, April 1982. The costs estimated in this study included provision for adequate defence services contained in New York's death penalty bill, which went beyond the services provided in many other states. Although this added to the cost of reinstating the death penalty in New York, most of the overall expenses would apply to other states as well. If other states provided better defence services for capital defendants, the costs of the death penalty nationally would escalate still further.

diverts valuable resources from other, more effective, areas of law enforcement.

'Just retribution'

Many of the government officials whom the mission met acknowledged doubts about the deterrent value of the death penalty, but said they believed that the death penalty was, nevertheless, the deserved punishment for the most heinous crimes.

Amnesty International rejects this argument on the grounds that no crime, however heinous, can justify the infliction of cruel and inhuman punishment. Contemporary standards of justice, moreover, have rejected the notion that "just retribution" may be achieved by repeating the acts which society condemns. Just as criminal codes do not sanction the raping of rapists or the burning of arsonists' homes, still less is the deliberate taking of a life by the state an appropriate punishment for murder.

Concern for the victims' relatives

It has been argued that the death penalty is the only way to acknowledge the suffering caused to the family and friends of the victims of murder and to ensure "just retribution" for their loss. An execution, however, cannot restore life or lessen the loss to the victim's family. In fact, far from relieving the pain, the lengthy procedures and uncertain outcome of capital cases may instead prolong the anguish and suffering caused to victims' families and hinder any healing process. Executions often also draw attention away from the victims, and focus it on the prisoner killed by the state, thereby increasing the feelings of rejection often experienced by victims' relatives.

While some families have said that the execution of the killer of a relative or friend brought a sense of relief, others have said that they believed no useful purpose was served by the death penalty in such cases. In either event, executions only add to the total amount of suffering by causing another innocent family — the prisoner's — to experience the pain and loss of having their relative killed by the state. In at least two cases where people have been executed since 1977, relatives of the victims actually appealed for clemency.

Laws authorizing the death penalty for certain crimes foster the belief that it is the appropriate penalty in such cases. The imposition of alternative penalties or the vacation of death sentences on appeal, albeit on valid legal grounds, may nevertheless cause families of the victims to feel that they have somehow been cheated of justice,

creating unnecessary frustration and disillusionment with the law, and reinforcing their anguish.

There is no easy answer to the question of how best to respond to the deep and legitimate needs of the relations of murder victims, most of which are overlooked by the criminal justice system. However, execution is not an available remedy in the vast majority of murder cases. The diversion of resources into more effective law enforcement, ensuring swift and certain penalties, must surely be of greater benefit both to victims' relatives and to future potential victims of crime. Greater resources might also be spent on compensation and counselling.

Execution of the Innocent

One of the strongest arguments against the death penalty is that it is irrevocable and, despite the most stringent safeguards, can be inflicted on the innocent.

A recent study has produced evidence of 349 US cases in which innocent people were wrongly convicted of offences punishable by death.[23] The cases — from 1900 to 1985 — concerned people who were either sentenced to death or to terms of imprisonment, usually for murder. In most cases, the convictions had been upheld on appeal but new evidence had come to light later which either established the prisoners' innocence or raised strong doubts about their guilt. In most cases this had led to acquittals, pardons, commutations of sentence or the dismissal of the charges, often years after the original conviction. Twenty-three prisoners, however, were executed.

Many other cases in which it was alleged that miscarriages of justice had occurred were excluded from the study's findings, through lack of adequate data.

Some of the errors described in the study were revealed through the efforts of defence attorneys in later appeals; others were discovered by chance or by investigations conducted by newspaper reporters or others not connected with the cases in a legal capacity. In 32 cases it was found that no crime had been committed, sometimes because the purported murder victim was found alive. In some cases other people had confessed to the crime, alibi evidence was found to be valid or witnesses had lied. The report listed some 50 cases

23. The study was conducted from 1983 to 1985 by Hugo Adam Bedau, Department of Philosophy, Tufts University, Massachussetts, and Michael L. Radelet, Department of Sociology, University of Florida, Gainsville. They compiled the cases from law journals, court records, newspapers, interviews with lawyers and other sources. Their findings are described in "Miscarriages of Justice in Potentially Capital Cases", prepublished draft dated 20 April 1986.

occurring after 1970, including several in which death sentences were imposed under the present death penalty laws.

Cases cited in the study included that of John Ross (black), convicted of raping a white woman in Louisiana in 1975. He was 16 at the time and confessed after being beaten by the police. He was sentenced to death after a trial lasting less than a day. His conviction was upheld on appeal, but because the death sentence had been imposed under a mandatory death penalty statute (which was later ruled unconstitutional by the US Supreme Court) his sentence was reduced to 20 years' imprisonment. After his conviction, Ross asserted his innocence in a letter to the Southern Poverty Law Center, which provides free legal services to poor defendants. It took up his case, paying for a private investigation. John Ross was released in 1981 after investigators discovered that a blood sample, alleged at the trial to be that of the rapist, did not match his blood group.

Another case cited in the study was that of Jerry Banks (black), convicted on two counts of murder and sentenced to death in Georgia in 1975. After having been tried twice and sentenced to death, he was granted a third trial in 1980 because of newly discovered evidence, including that of a witness who testified that the fatal shots could not have come from Jerry Banks' weapon. All charges against him were dismissed and he was released later that year — after five years on death row. When his wife asked for a divorce three months later, he killed her and himself. The Georgia county which had conducted the 1975 murder prosecution subsequently awarded damages to Jerry Banks' three children for its mishandling of the case.

The study also included the case of James Adams, sentenced to death in Florida in 1974 for murder and executed in 1984. According to the study, alleged exculpatory evidence in the case was discovered by an investigator one month before the scheduled execution. However, the Florida Governor declined to grant a stay of execution to enable the evaluation of this new evidence.

Although the legal appeals now available to US capital defendants may have reduced the risk of wholly innocent people being sentenced to death, no system can altogether exclude this possibility. Some evidence on which innocent people may be convicted, such as perjured testimony, may never come to light through the normal appeals process.

Apart from questions of guilt or innocence, there are many other ways in which death sentences may be unfair or wrongly imposed, such as through trial error or insufficient investigation of mitigating circumstances at the sentencing hearing. As is illustrated by several cases in this report, the criminal justice process cannot serve as a definitive safeguard against error, prejudice or injustice.

Public opinion

Governments often justify retention of the death penalty on the grounds of strong public support for it. Amnesty International's mission met several US government officials who expressed personal doubts about the death penalty but justified its retention on this basis.

Although opinion polls are not wholly accurate gauges of public attitudes, the numerous polls undertaken in the USA on this question have shown broad consistency in indicating general trends on the death penalty. They show that support for the death penalty declined after the 1930s to reach an all-time low in the mid-1960s, when 42 to 45 per cent of the population was found to favour the death penalty, while a small majority (42 to 47 per cent) opposed it. About 11 per cent of the population was uncertain.

Later polls indicate that public support for the death penalty has risen steadily since the 1960s, with a smaller percentage of those polled professing uncertainty as to their views. National polls conducted in 1984 and 1985 indicated that 75 to 84 per cent of the population supported the death penalty, the highest proportion recorded since 1936.

Public support for the death penalty has increased with, and apparently in response to, a rise in violent crime. Although the reasons for supporting the death penalty varied, the ones most commonly given by those polled were: that it was the deserved punishment for certain crimes; that it acted as a deterrent to violent crime, and that it protected society by the permanent incapacitation of the offender.

However, surveys have indicated that support for the death penalty is not unqualified. A Gallup poll published in January 1985 showed that while 72 per cent of the population supported the death penalty in general, this dropped to 56 per cent when those questioned were given the choice between executing murderers and sentencing them to life without parole. This finding was similar to a Harris poll taken in 1983, which showed a drop in support from more than 70 per cent to 52 per cent if it could be shown that long prison terms were as effective a deterrent as the death penalty. The January 1985 Gallup survey also indicated that a decline among supporters — from 71 per cent to 51 per cent — would occur if new evidence were to show conclusively that the death penalty was not a deterrent.

A recent poll carried out in Florida on behalf of the US Section of Amnesty International showed that, while 84 per cent of those polled in the state favoured the death penalty (62 per cent of this group "strongly favouring" and 22 per cent "somewhat favouring" it), 54 per cent said they would be less likely to support it if dangerous

murderers were sentenced to life imprisonment without parole. Seventy per cent of those polled also said they would support an alternative to the death penalty that would sentence convicted murderers to life in prison with their earnings going directly to the victims' families or to a victims' relief fund. Only 37 per cent said they would still support the death penalty if it was shown that it had no deterrent effect (30 per cent said they would not support the death penalty in such circumstances and 33 per cent said they did not know).[24]

The Florida survey also revealed that there were certain types of cases where the death penalty had been imposed in which a large proportion of those polled said that they would oppose it. A majority said that they did not favour the imposition of death sentences on people who were mentally retarded, or who were mentally unbalanced at the time of the murder and had a history of mental illness.[25]

Respondents in the Florida survey also expressed opposition to the death penalty in four actual cases of prisoners who had been executed. An outright majority (57 per cent) said that they opposed the death penalty in two of the cases: those of James Terry Roach, a minor who also had a history of a debilitating disease (see Chapter 5), and Timothy Baldwin, a prisoner executed in Louisiana who, the respondents were informed, was inadequately represented at his trial and in whose case there was evidence suggesting possible doubt about his guilt. A third case was that of James Dupree Henry, a Florida prisoner who was sentenced to death and executed for an accidental killing during a robbery; in this case 47 per cent of those polled opposed the death penalty, while 40 per cent favoured it. In a fourth case, that of John Spenkelink, who was executed in Florida, 42 per cent of those polled said they opposed the death penalty.[26]

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24. The poll was conducted for Amnesty International USA by Cambridge Survey Research. The first survey, of 500 registered voters, was conducted in February 1986 and a follow-up survey of 400 voters was conducted in April 1986. A series of detailed questions were put to those polled in telephone interviews.

25. In response to different hypothetical questions on how they would vote if they were jurors, 71 per cent of those polled said they would oppose the imposition of the death penalty if the convicted person was mentally retarded; 54 per cent said they would do so if the convicted offender was mentally unbalanced at the time of the crime and had a history of mental illness. In response to a different question, 85 per cent of those polled said that they would oppose the imposition of a death sentence on a mentally retarded offender who was an accomplice to a criminal homicide, where the actual killer received a life sentence in return for testifying for the state.

26. Without a complete record of the cases, those polled could not judge how they would have voted if they had been actual jurors at the trials. However, the

In an opinion poll conducted in Tennessee and Georgia in December 1985, more than two to one of those polled expressed opposition to the execution of offenders aged under 18 at the time of the crime.[27]

Opinion polls are not always reliable and results have differed according to how the questions were phrased. However, they indicate that public support for the death penalty is divided and is not unqualified.

Moreover, support for the death penalty is not always based on accurate information as regards its effectiveness or how it is applied in practice.

The generally high level of support for the death penalty is not shared by all sectors of the community. The churches, in particular, have expressed strong opposition. The General Board of the National Council of Churches of Christ adopted a statement on 13 September 1968, declaring its opposition to the death penalty. Its reasons for taking this position included "The belief in the worth of human life and the dignity of human personality as Gifts of God"; "The conviction that institutionalized disregard for the sanctity of human life contributes to the brutalization of society"; the possibility of error; doubts about its deterrent effect and the belief that "the protection of society is served as well by measures of restraint and rehabilitation, and that society may actually benefit from the contribution of the rehabilitated offender".

Since 1972, the leading bodies of at least 20 major religious denominations in the USA have passed resolutions expressing opposition to the death penalty on religious, moral, humanitarian and social grounds.[28]

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respondents were given a summary of the crimes, who the victims were and other information relating to the circumstances of the cases: this information accorded with accounts of the cases given in court records and elsewhere.

27. The poll was commissioned by the Southern Coalition on Jails and Prisons and conducted by Information Associates of Washington, DC. Four hundred registered voters in each of the towns of Nashville (Tennessee), and Macon (Georgia) were polled.

28. Some of these statements and resolutions are published in the booklet "Capital Punishment: what the religious community says", published by the National Interreligious Task Force on Criminal Justice, New York. Churches whose statements against the death penalty are published in this booklet are: American Baptist Church in the USA, American Ethical Union, American Jewish Committee, American Lutheran Church, Christian Church (Disciples of Christ), Christian Reformed Church, Church of the Brethren, The Episcopal Church, American Friends Service Committee, Lutheran Church in America, The Mennonite Church, National Council of Churches of Christ in the USA, Presbyterian Church in the US, Reformed Church in America, Unitarian Universalist Association, United Church of Christ, United Methodist Church, United Presbyterian Church in the USA, United States Catholic Conference.

Some state governors have also successfully maintained their opposition to the death penalty, despite the majority of their constituents apparently favouring the death penalty. In November 1982 the majority of voters in Massachusetts voted in a referendum for the reintroduction of the death penalty. In the same month a state governor, Michael Dukakis, was elected who was an outspoken abolitionist and whose opponent was strongly in favour of the death penalty. In New York State in the 1970s, Governor Hugh Carey was elected for two successive terms, despite having used his power of veto to prevent legislation to reinstate the death penalty (passed by the state legislature) from becoming law. His successor, Mario Cuomo, was also elected despite being an outspoken abolitionist.

Amnesty International believes that public policy should lead public opinion in matters of human rights and criminological practice. In other countries the death penalty has been abolished even though a majority of the public appeared to favour its retention. Were the public to be fully informed about how the death penalty applies in practice, of its limited capacity, its high cost and lack of deterrent effect, and of alternative measures available to protect society, support for the death penalty in the USA would be likely to diminish.

F.Y.I.

A Bulletin for ALEC Leaders
About State, Federal and Local Issues

February 24, 1989

STATE ISSUES

Service Taxes on Advertising Again an Issue: The extension of state taxes to business services including advertising, an issue thought dead since Florida's bitter experience last year, is again becoming a major subject of debate in state legislatures, including active legislation in Iowa (SF 7), Missouri (HB 642), New Jersey SB 3201), North Carolina (HB 56), Oregon, and South Dakota (HB 1417).

The Oregon legislation is potentially the most far reaching. Under this proposal, the state's 6.5% gross receipts tax would be extended to the advertising revenues of television networks based on a ratio determined by Oregon's percentage of the network's national viewing audience. Many observers fear that the Oregon proposal is a stalking horse for efforts to enact advertising taxes in other states. Indeed, Alan Friedman, General Counsel of the Multistate Tax Commission, an organization of state tax administrators, gleefully calls the Oregon legislation "an evolving model" for other states. Mr. Friedman says that the Oregon proposal "breathes new life" into the service sales tax movement.

Last year, after one of the most divisive and bitter legislative battles in the state's history, Florida was forced to repeal its service sales tax imposed in 1987.

For additional information, contact ALEC State Chairman, Senator Bill Kennemer, at (503) 378-8076, or Duane Parde, Director of ALEC's Task Force on Fiscal Responsibility and Tax Policy.

Civic Literacy Legislation Proposed in Rhode Island: In conjunction with ALEC's National Project on Civic Literacy, Representative Paul Suttell, ALEC Rhode Island State Chairman, has introduced legislation to require all Rhode Island high schools to teach the major principles of the United States Constitution, the Declaration of Independence, and the Federalist Papers. The legislation, HB 6822, is based on model legislation contained in the 1989-90 edition of The Source Book of American State Legislation.

A recent survey by the Center for Civic Education (CCE) found that 70% of American high school and college students did not know that our government derived its authority from the consent of the governed and that two-thirds could not distinguish between democratic and dictatorial forms of government. Even more frighteningly, a 1987 study

by the Hearst corporation found that half of all Americans thought that the Marxist dictum "From each according to his ability, to each according to his need" was part of the U.S. Constitution.

ALEC's National Project on Civic Literacy is designed to inform state legislators of the need for and benefits of promoting a greater societal understanding of America's Founding Documents. As a result of this program, in addition to Rhode Island, civic literacy legislation has been introduced in Colorado, North Dakota, and Texas.

For additional information, contact Representative Suttellat (401) 277-2259, or Duane Parde, Director of ALEC's Task Force on Education, at (202) 547-4646.

National Coalition Endorses ALEC Model Hepatitis B Legislation: The National Foundation for Infectious Diseases' State Legislative Task Group on Hepatitus B has endorsed ALEC model legislation designed to protect health care workers from infection with Hepatitus B. The model "Hepatitus B Inoculation Act" is contained in the 1989-90 edition of The Source Book of American State Legislation.

This bill would mandate that hospitals and nursing homes which receive state funding provide inoculations to protect their employees from the potentially lethal occupational risk of Hepatitus B virus. It is estimated that in 1987, 18,000 health care workers became infected with the Hepatitus B virus and over 300 died as a result of Hepatitus B complications.

William Small, Executive Director of the National Foundation for Infectious Diseases (NFID), warned that the United States is facing "a major epidemic" of Hepatitus B and called for "active support for introduction and passage of this bill."

In addition to representatives from the NFID, the State Legislative Task Group on Hepatitus B includes representatives from the Centers for Disease Control, American Liver Foundation, American Public Health Association, American College of Preventive Medicine, American College of Obstetricians and Gynecologists, American College Health Association, Smith Kline & French Laboratories, the Intergovernmental Health Policy Project, ALEC and the National Conference of State Legislatures.

For additional information, contact Michael Tanner, Director of ALEC's Task Force on Health and Welfare, at (202) 547-4646.

New York Senate Passes Death Penalty: By an overwhelming 39-17 margin, the New York Senate has passed legislation, S 600, that would reinstate capital punishment. The measure was cosponsored by ALEC National Director, Senator Owen Johnson.

Under the provisions of Senator Johnson's legislation, the death penalty could be imposed on individuals convicted of first degree murder if certain specific aggravating circumstances were present:

* The victim was a police officer performing his official duties at the time of the killing; or

* The victim was employed by a state or local correctional facility at the time of the killing; or

* The murderer was serving a previous life sentence or had escaped from a state correctional institution at the time of the crime; or

* The victim was a witness to a crime and the murder was committed to prevent the rendering of testimony in any criminal action or proceeding; or

* The victim was killed during the commission of any of the following felonies, or in the course of immediate flight following such a felony: robbery, burglary, rape, kidnapping, arson, first degree sodomy, first degree sexual abuse, or first or second degree escape; or

* The murderer intended to cause the victim intense suffering, above and beyond that which was a natural consequence of the crime itself; or

* The murderer had previously been convicted of murder.

The Assembly is expected to follow the Senate's lead and give approval to the bill. However, Governor Mario Cuomo has vowed to veto any death penalty bill that passes the legislature. The margin of victory in the Senate was great enough to override such a veto. Senator Johnson is optimistic that the bill will draw similarly strong support in the Assembly.

For additional information, contact Senator Johnson at (516) 669-9200, or Rick Gowdy, Director of ALEC's Task Force on Law and Justice, at (202) 547-4646.

Massachusetts Key Battleground for Toxic Reduction Initiatives: The controversy initiated by the 1986 passage of California's revolutionary Proposition 65 has been taken one step further with the introduction of Massachusett's Toxic Use Reduction Act. The legislation, HB 1929, would grant the state government unprecedented authority to phase-out or restrict the use of chemicals state-wide and enable the state government to order businesses to use less, none, or alternative chemicals in the manufacturing process.

While proponents of the bill claim that industry is not responding to existing market incentives for toxic source reduction, the Associated Industries of Massachusetts (AIM) argues that "existing government programs, or lack thereof, have caused the alleged market failure, not business . . . employers, especially smaller businesses which comprise the majority of Massachusetts manufacturers, are overwhelmed with paperwork requirements and rules that have no obvious direct environmental or safety benefit, discouraging companies and distracting them from focusing on (toxic) source reduction opportunities."

Opponents of the bill point out that requiring state bureaucrats to second guess the manufacturing process of over 10,000 Massachusetts industries would set the stage for uninformed decision making that would cripple a company's ability to do business in the state. Given Massachusetts' current fiscal nightmare, legislators are dubious that the state could afford a massive expansion of the bureaucracy or the engineering expertise necessary to credibly review the potential hazards and benefits of legal chemical usage.

Although AIM has offered a comprimise alternative, the Hazardous Waste Minimization and Management Act, S 1129, Mass. PIRG has vowed to take HB 1929 to a public referendum if necessary, and both sides are preparing for the expected voter initiative.

For additional information, contact G. Montgomery Lovejoy, Vice President for Energy and Environmental Policy for the Associated Industries of Massachusetts, at (617) 262-1180, or Roop Mohunlall, Director of ALEC's Task Force on Energy, Environment, and Natural Resources, at (202) 547-4646.

"Taxpayers' Bill of Rights" Advances in Kansas: The Kansas House Committee on Taxation, with the support of the state Department of Revenue, has introduced legislation, HB 2033, which would codify the procedures that the state would be required to follow in tax collection.

The "Taxpayers' Bill of Rights" would:

1) Require the Director of Taxation to inform all taxpayers, against whom an assessment has been filed, of their right to appeal;

2) Prohibit the Director of Taxation from using the amount or number of assessments levied as a criteria in evaluating Department of Revenue employees;

3) Waive interest payments in cases where Revenue Department negligence has resulted in undue delay in assessing or notifying a taxpayer;

4) Require that leans against property be removed within 30 days of payment;

5) Require that the Department of revenue pay a taxpayer's attorney fees and related expenses if an assessment or other claim is found to be without a reasonable basis; and

6) Require that the Department of Revenue be bound by any written advice that it gives to a taxpayer.

The legislation is currently before the Senate Committee on Assessment and Taxation.

For additional information, contact ALEC State Chairman, Representative Vern Williams, at (913) 296-0111, or Duane Parde, Director of ALEC's Task Force on Fiscal Responsibility and Tax Policy.

Minnesota Considering Comparable Worth Mandate: Senator Ember Reichgott, Chairman of the Senate Judiciary Civil Law Committee, has introduced legislation, SF 130, which would amend the state's Human Rights Act to provide that failure on the part of any business to implement a comparable worth plan would be considered an unfair discriminatory act and a violation of state civil rights laws.

For additional information, contact ALEC State Chairman, Representative Gary Schafer, at (612) 296-6013, or Duane Parde, Director of ALEC's Task Force on Labor, at (202) 547-4646.

New England State Establish Truck Permit Pact: In a major boost to the interstate trucking industry, five New England states (Maine, New Hampshire, Vermont, Massachusetts and Rhode Island) have joined together to establish a multistate permit system for oversized and overweight trucks. The new system, which took effect February 21, significantly streamlines the truck permit system.

According to Maine Transportation Commissioner Dana F. Connors, "This first-in-the-nation agreement makes it easier for the trucker to get permits for multistate travel and cuts down on the administrative workload for individual states." Until now, truck drivers were required to obtain permits from each individual state. Under the new system, trucks meeting certain criteria may obtain a permit good for traveling in all participating states. The state issuing the permit collects the fees and distributes a proportion to the other participating states.

For additional information, contact Roop Mohunlall, Director of ALEC's Task Force on Transportation, Communications and Public Works, at (202) 547-4646.

ALEC NEWS

ALEC Releases New Study on the Privatization of Mass Transit: ALEC has released a new report that concludes that competitive contracting and greater privatization of urban mass transportation services could save states and localities millions of dollars while improving service.

Entitled "Moving America Competitively: A State Legislators' Guide to the Privatization of Public Transportation," the study concludes that "among all public services, perhaps none is more ripe for privatization than public transit." In recent years public transit operating costs have escalated well ahead of the inflation rate and well ahead of the costs of other public services. At the same time, productivity plunged by one-third between 1970 and 1980. At a time of increasingly tight budget constraints, states and localities can no longer afford an increasingly inefficient and costly public transportation system, when privatization will lead to "substantial savings, increased services, reduced fares, and lower taxes."

The report which was authored by Wendell Cox, an internationally recognized expert in public transportation organizational analysis, contains model competitive contracting legislation based on a highly successful Colorado bill. This model legislation has already been introduced in Arizona, Pennsylvania, Utah, and Washington.

For additional information, contact Roop Mohunlall, Director of ALEC's Task Force on Transportation, Communications and Public Works, at (202) 547-4646.

ALEC Legislators Meet With President Bush: At the special request of the White House, five ALEC legislators were selected as an escort for President Bush on his recent visit to South Carolina. They were ALEC State Chairman, Senator Joe Wilson, Senator John Coursen, Senator Rick Lee, Representative Jarvis Klapman, and Representative David Wilkins.

New Info-Pac Available: ALEC now has available an Info-Pac on Surrogate Parenting. To order, contact Michael Tanner, Director of ALEC's Task Force on Health and Welfare, at (202) 547-4646.

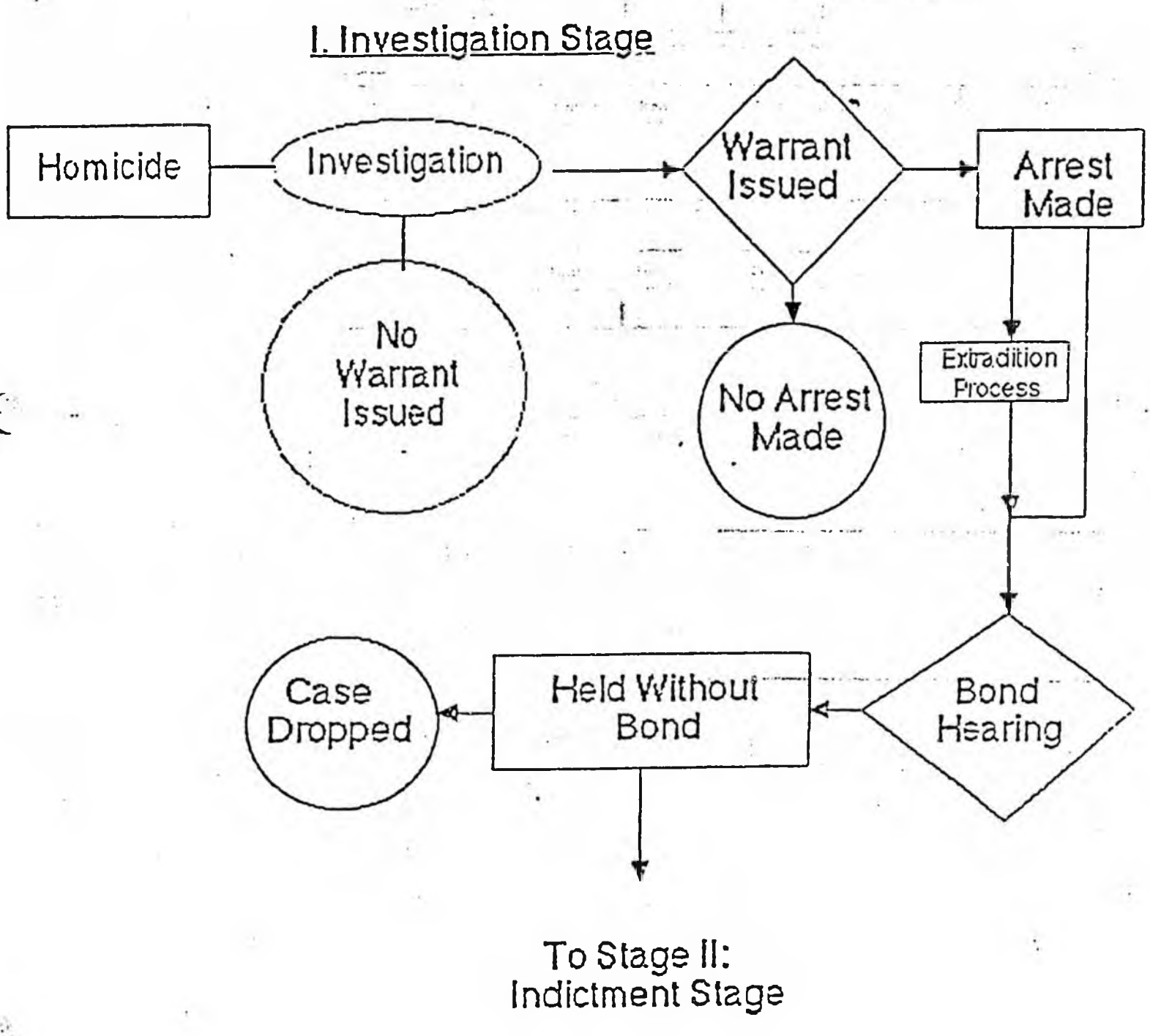
EDITOR

Michael Tanner

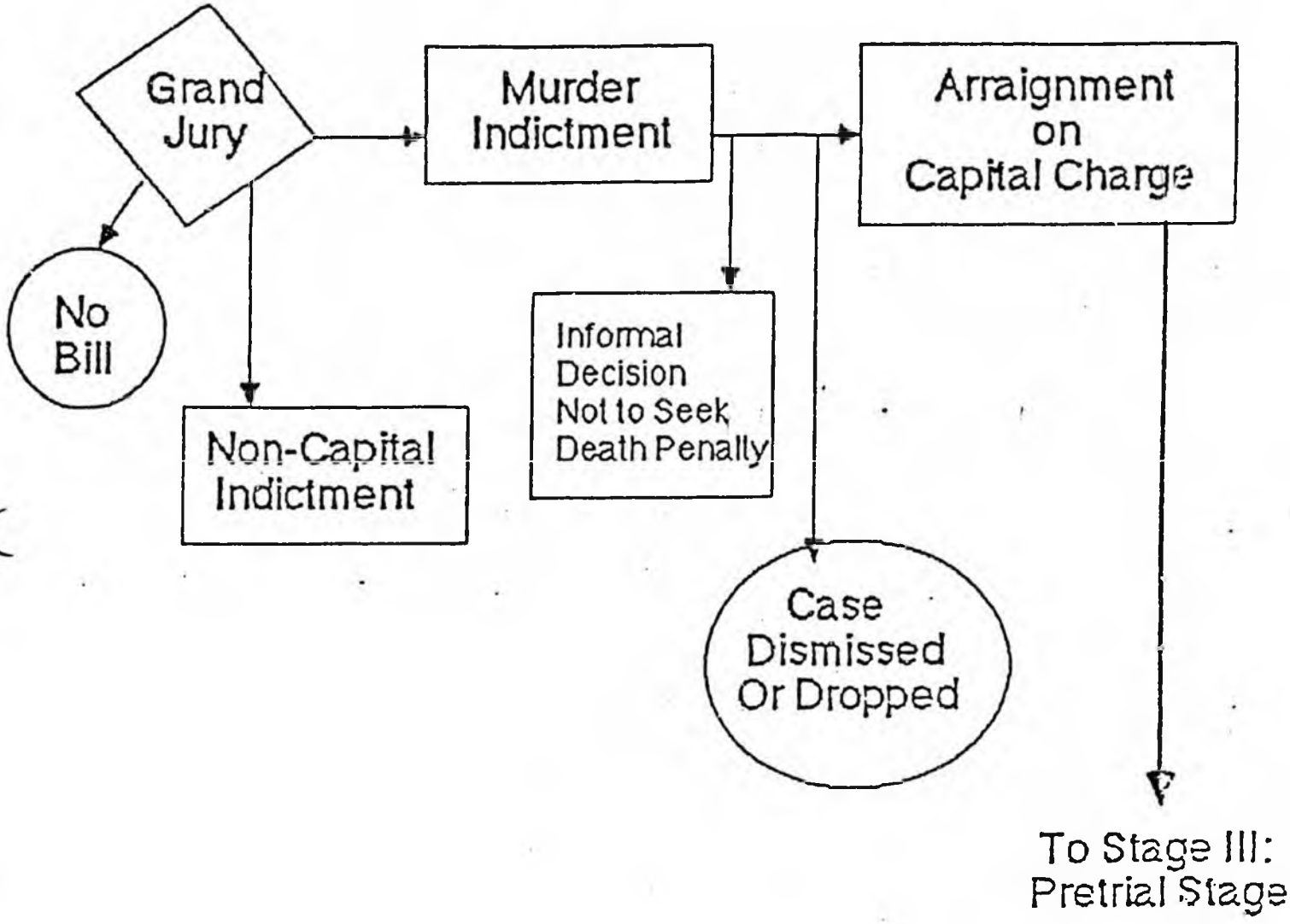
COME TO WHERE THE ACTION IS! ALEC's 1989 Annual Meeting: July 16-20, Monterey, California. For additional information, contact Michael Fletcher, ALEC Director of Conferences, at (202) 547-4646.

B. The Flow Chart System (From ABA Ad Hoc Committee)

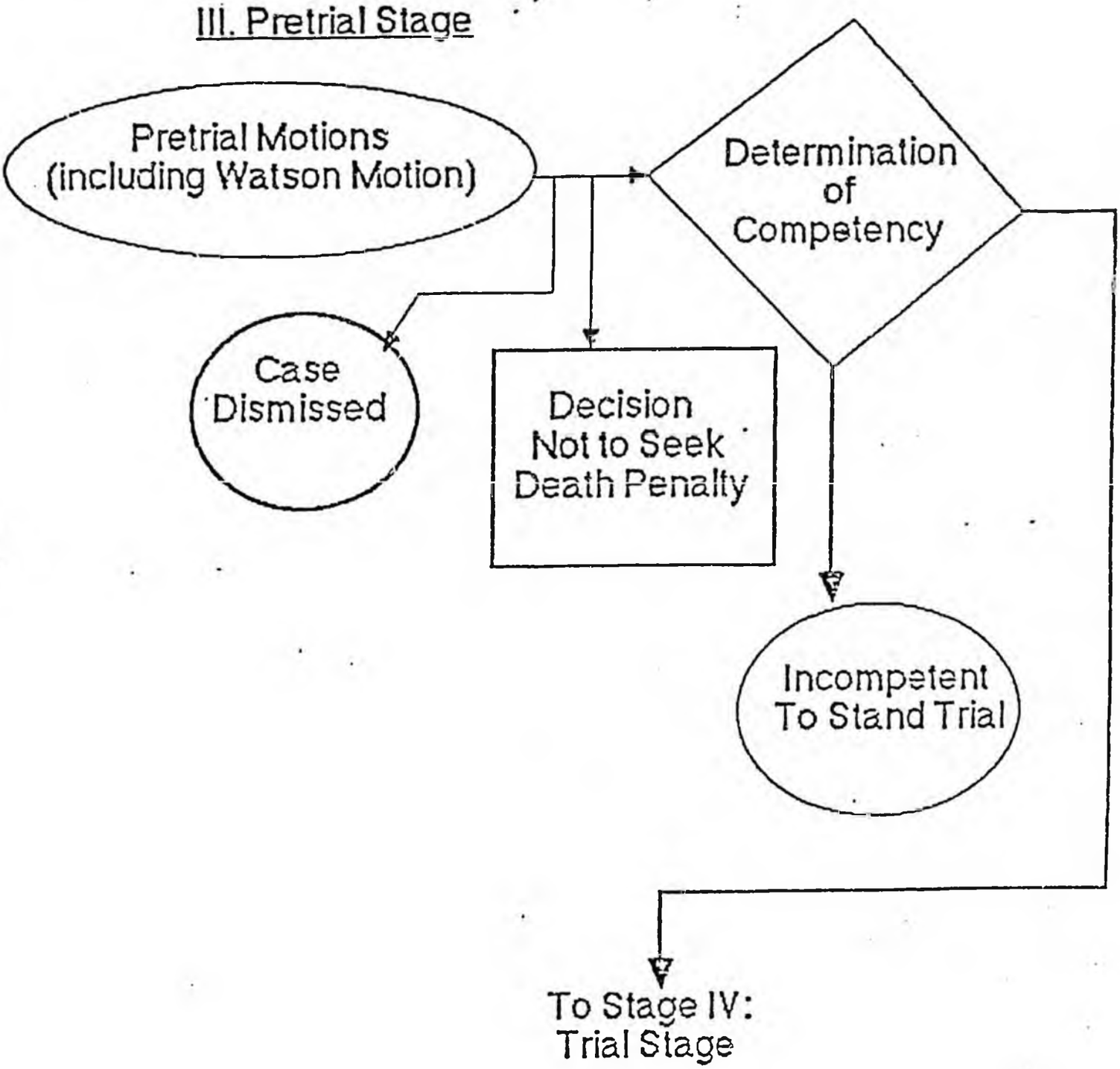
FIGURE 1



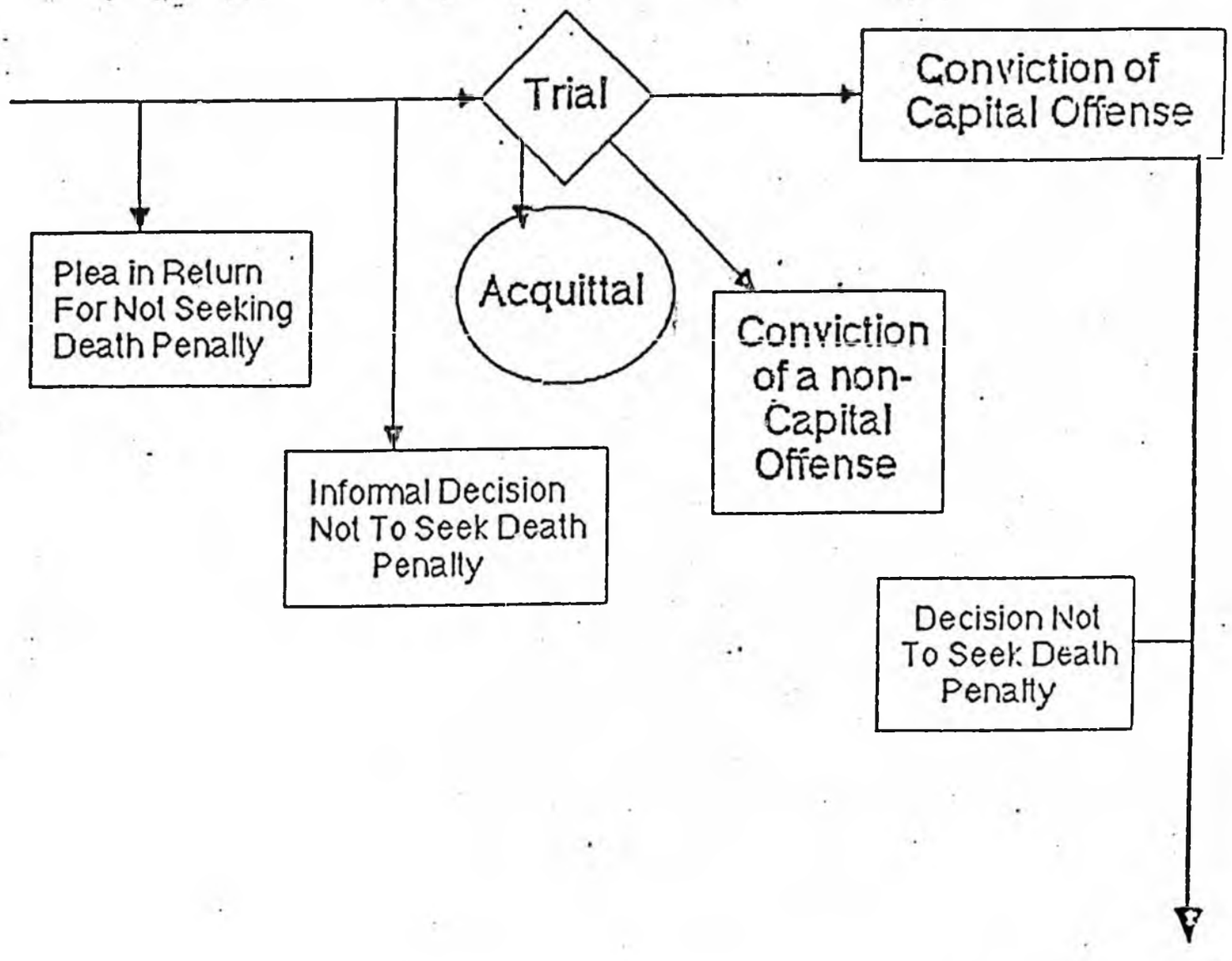
II. Indictment Stage



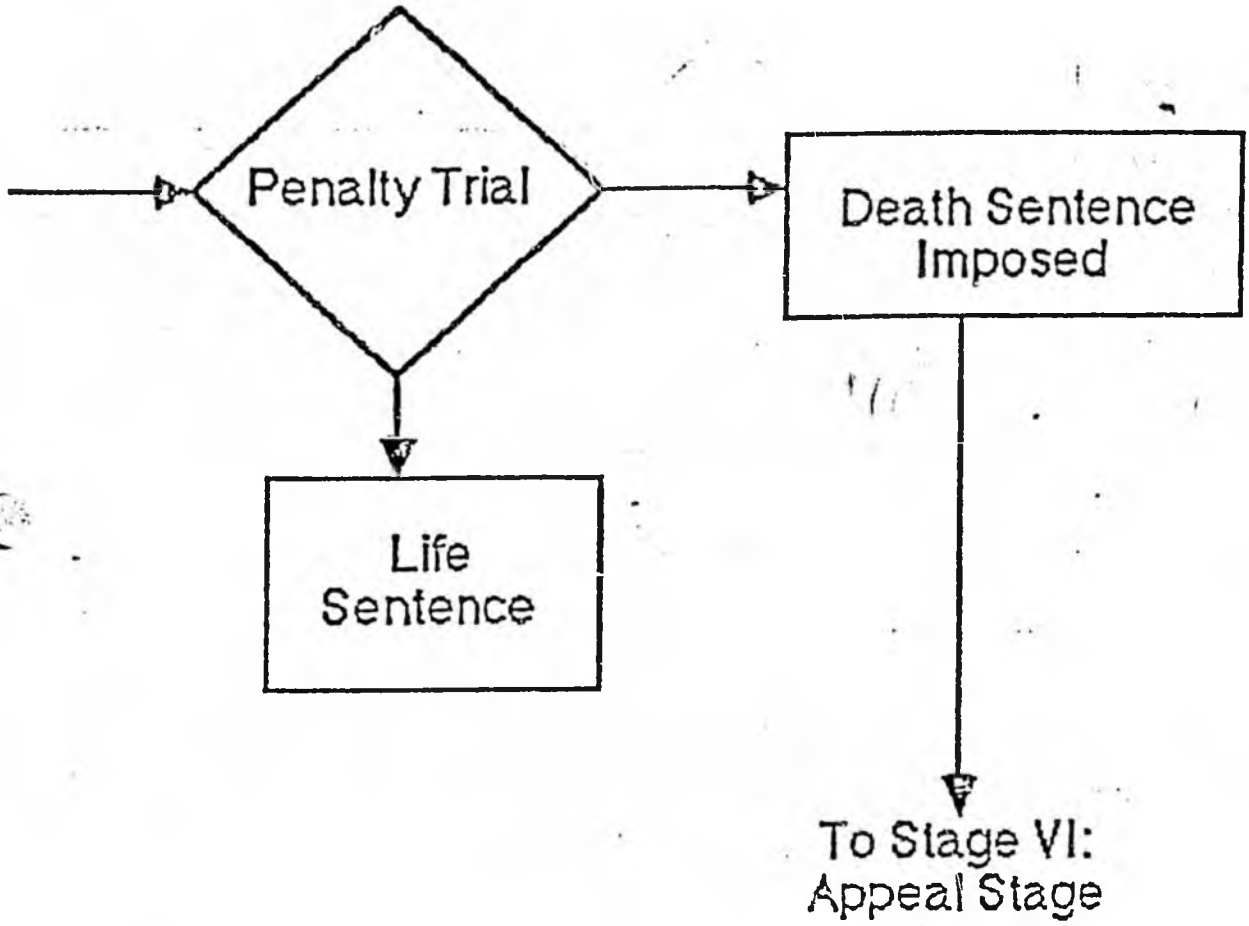
III. Pretrial Stage

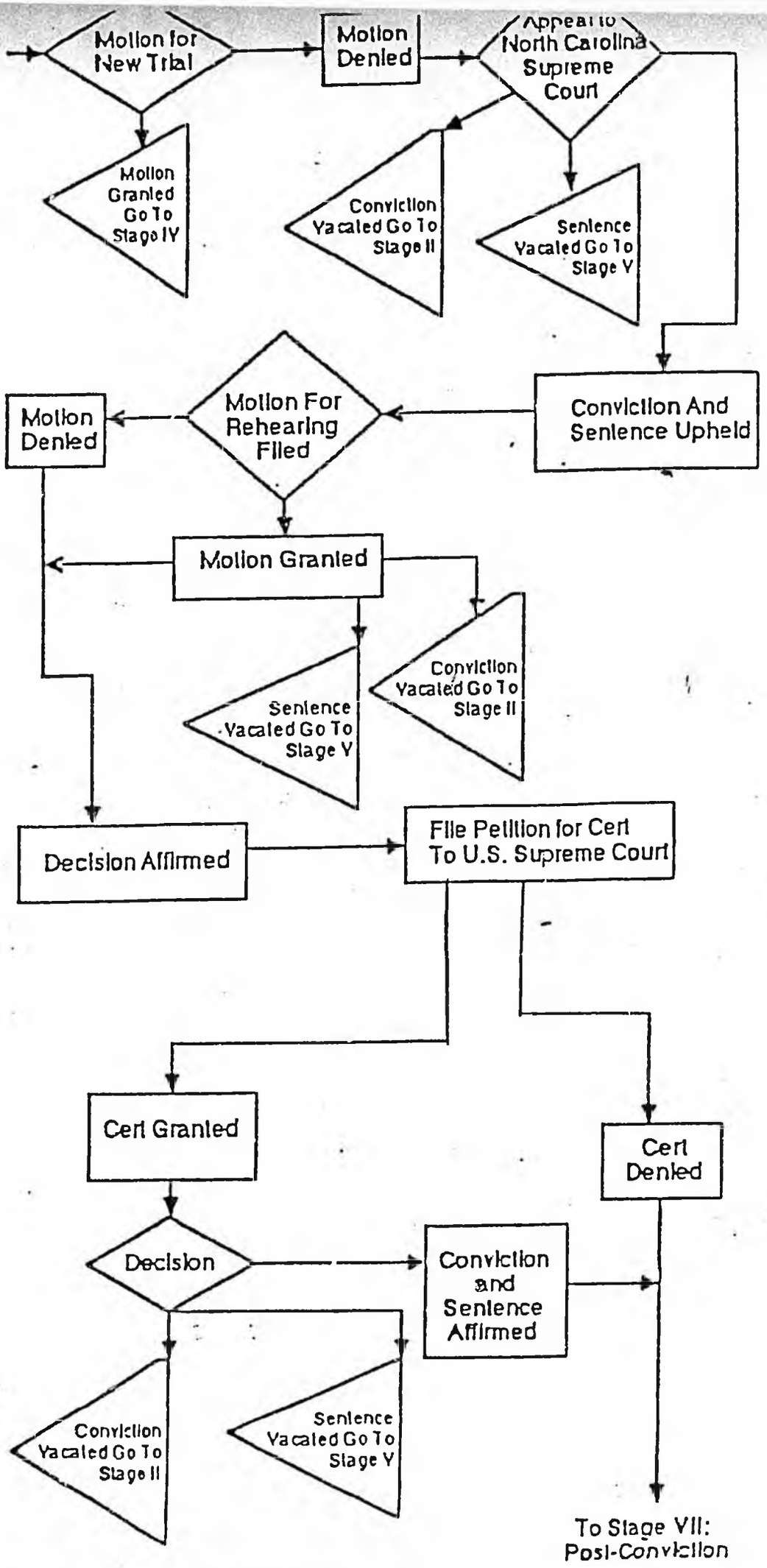


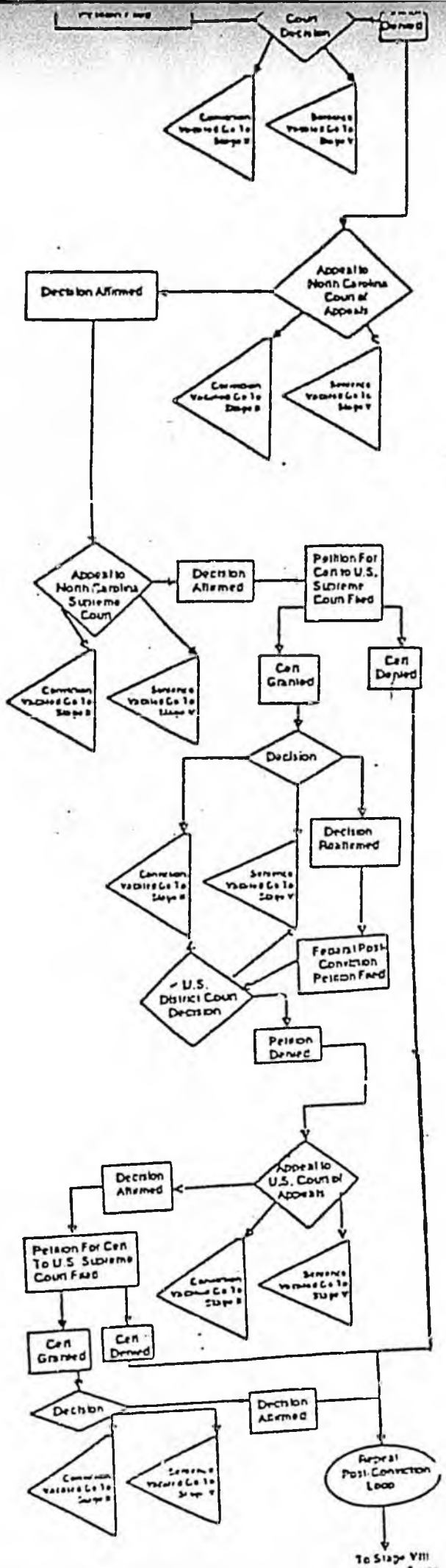
IV. Trial Stage



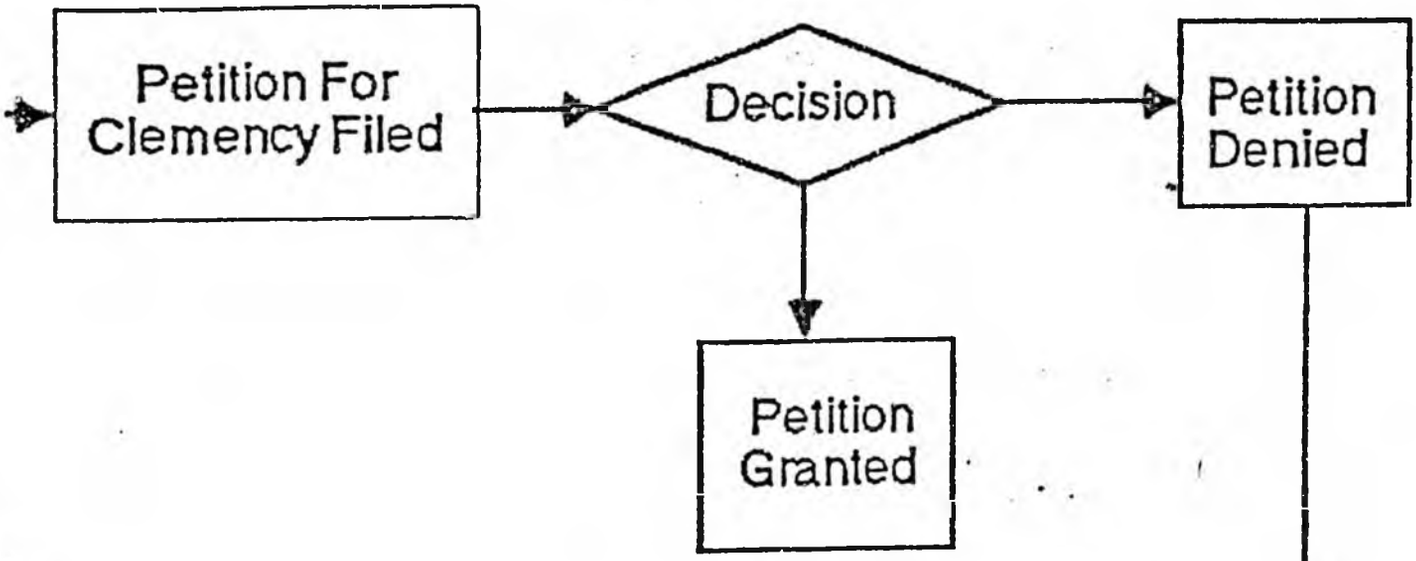
V. Sentencing Stage



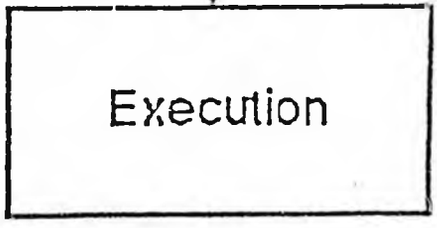

Motion for New Trial
Motion Denied
Appeal to North Carolina Supreme Court
Motion Granted Go To Stage IV
Conviction Vacated Go To Stage II
Sentence Vacated Go To Stage V
Motion Denied
Motion For Rehearing Filed
Conviction And Sentence Upheld
Motion Granted
Sentence Vacated Go To Stage V
Conviction Vacated Go To Stage II
Decision Affirmed
File Petition for Cert To U.S. Supreme Court
Cert Granted
Cert Denied
Decision
Conviction and Sentence Affirmed
Conviction Vacated Go To Stage II
Sentence Vacated Go To Stage V
To Stage VII: Post-Conviction


Court Decision
Denied
Decision Affirmed
Appeal to North Carolina Court of Appeals
Appeal to North Carolina Supreme Court
Decision Affirmed
Petition For Cert to U.S. Supreme Court Filed
Cert Granted
Cert Denied
Decision
Decision Reaffirmed
Federal Post-Conviction Petition Filed
U.S. District Court Decision
Petition Denied
Appeal to U.S. Court of Appeals
Decision Affirmed
Petition For Cert To U.S. Supreme Court Filed
Cert Granted
Cert Denied
Decision
Decision Affirmed
Federal Post-Conviction Loop
To Stage VIII

VIII. Clemency Stage



IX. Execution Stage



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Homicide and Deterrence: A Reexamination of the United States Time-Series Evidence*

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I. Introduction

Since the publication of Isaac Ehrlich's controversial articles [6; 9] on murder and capital punishment, there has been extensive criticism of his findings. Using regression analysis with U.S. time-series data, Ehrlich found that increases in the relative frequency of arrest, the relative frequency of conviction given arrest and the relative frequency of execution given conviction, reduce the number of homicides per capita and that the magnitudes of these effects are consistent with sharp predictions—the "elasticity conditions"—derived from the hypothesis that potential murderers act as if they were maximizing expected utility.[1]

Among the criticisms of Ehrlich's time-series work on homicide, the most important are: (1) The FBI data used by Ehrlich to measure homicides and the probabilities of punishment is highly suspect, especially during the 1930s [3]. (2) Ehrlich's results are sensitive to the inclusion of additional explanatory variables and the choice of functional form [3; 19; 26]. (3) Ehrlich's regressions are unstable over the 1960s [26]. (4) The negative correlations between the homicide rate and the probabilities of punishment found by Ehrlich may be explained by the effect of the homicide rate on the probabilities of punishment not vice versa [17].

Ehrlich has responded to these criticisms in some detail [7; 8; 9; 11]; perhaps his strongest rebuttal is his cross-sectional study of homicide [9] which replicated the deterrence findings reported in his 1975 time-series article. Recently, however, Ehrlich's cross-sectional results have also come under fire. McManus [25] and Leamer [22; 23] have argued that Ehrlich's cross-sectional finding that capital punishment is a deterrent to homicide is sensitive to one's prior beliefs concerning the variables to be included in the homicide regression.

The purpose of this paper is not to debate the merits of Ehrlich's research but to move the debate forward by presenting new updated time-series estimates of the U.S. homicide function. Within the context of the new estimates presented in this paper, the criticisms of

*The author thanks Gary Becker, Isaac Ehrlich, Terry Seaks and George Stigler for helpful suggestions.

1. Let E_{PA} = the elasticity of homicide with respect to the probability of arrest, E_{PC} = the elasticity of homicide with respect to the conditional probability of conviction and E_{PE} = the elasticity of homicide with respect to the conditional probability of execution. For a group of expected utility maximizing individuals it can be shown that $-E_{PA} > -E_{PC} > -E_{PE}$. See Ehrlich [6, 401].

Ehrlich's results are considered. In section II of the paper Hoenack and Weiler's [17] results are critically examined. In the third section of the paper several improvements are made in the estimation of the U.S. homicide function: the time-series sample is updated to 1977, numerous alternative sets of explanatory variables are considered and most importantly, the homicide rate is measured using Vital Statistics data rather than FBI data. The results in this section confirm Ehrlich's findings. The *t*-statistics of the estimated coefficients on the probabilities of punishment are, in general, highly significant and much larger than the *t*-statistics reported by Ehrlich. Also, the magnitudes of the coefficients on the probabilities of punishment are consistent with the "elasticity conditions" derived by Ehrlich.

In section four the stability and proper functional form of the homicide function are analyzed. The homicide function is shown to be reasonably stable over time. The choice of the proper functional form is carefully analyzed using the Box-Cox analysis; the hypothesis that the homicide function is log-linear cannot be rejected whereas the hypotheses that the homicide function has a semi-logarithmic or a linear functional form are decisively rejected. Also, the optimal functional form resulting from the Box-Cox analysis is highly consistent with the deterrence theory.

II. Hoenack and Weiler's Results Reconsidered

The crucial idea underlying Hoenack and Weiler's [16; 17] (hereafter H&W) argument that Ehrlich's results are spurious is that an increase (decrease) in homicides increases (decreases) the work-loads of the police and courts causing the arrest, conviction, and execution rates to decline (rise), at least in the short run. If the increase (decrease) in homicides is found to be permanent, the amount of resources devoted to enforcing the law against homicide may be increased (decreased), but this occurs only after a time lag. According to this theory, even if potential murderers are unaware of, or unaffected by, changes in the relative frequencies of punishment, one would still expect to observe negative short run correlations between the homicide rate and the relative frequencies of punishment.

After specifying a complete structural model of homicide depicting the response of the law enforcement system to changes in homicides and the response of homicides to changes in deterrence variables H&W estimate 4 different homicide functions using 2SLS. In their first two regressions which contain the same variables used by Ehrlich, H&W report results that are similar to Ehrlich's. However, after including another age distribution variable not used by Ehrlich, or after replacing Ehrlich's single age distribution variable with two different age distribution variables, H&W get dramatically different results.

In the latter two regressions, the coefficients on the relative frequencies of conviction and execution are both positive. Using tests of overidentifying restrictions and FBI data on the age distribution of arrests, H&W argue that their homicide regressions containing two age distribution variables are superior to Ehrlich's homicide regression containing only one age distribution variable. H&W conclude their paper by arguing that Ehrlich's findings supporting the deterrence theory are spurious and reflect the response of the relative frequencies of punishment to changes in the homicide rate, not the response of the homicide rate to changes in the relative frequencies of punishment. H&W's criticism of Ehrlich's results is too ambitious. At best, they have shown that their 2SLS estimates of the para-

Table I. Definition of Variables in the Regression Analysis

ln q^*	= Natural logarithim of non-negligent homicides per 1000 civilian population based on FBI data.
ln q	= Natural logarithim of non-negligent homicides per 1000 civilian population based on Vital Statistics data.
ln PA	= Natural logarithim of probability of arrest.
ln PC	= Natural logarithim of conditional probability of conviction given arrest.
ln PE	= Natural logarithim of conditional probability of execution given conviction.
ln LFP	= Natural logarithim of proportion of the population in the labor force.
ln U	= Natural logarithim of percent of labor force unemployed.
ln Y	= Natural logarithim of Friedman's estimate of real permanent income per capita.
ln NW	= Natural logarithim of the proportion of the population which is nonwhite.
ln REL	= Natural logarithim of the proportion of the population which belongs to a religion.
ln HWF	= Natural logarithim of the proportion of families that have both husband and wife present.
TT	= Time trend: 1933 = 1, 1934 = 2, . . . , 1977 = 45.
ln $A1424$	= Natural logarithim of the proportion of the population within the 14–24 age group.
ln $A2124$	= Natural logarithim of the proportion of the population within the 21–24 age group.
ln $A2529$	= Natural logarithim of the proportion of the population within the 25–29 age group.
ln $A2129$	= Natural logarithim of the proportion of the population within the 21–29 age group.

Note: Except for the variable q, the data used in this paper is identical to the data used by Hoenack and Weiler for 1933–1969. For a listing of the instrumental variables used in the 2SLS regressions, see Hoenack and Weiler [17, 329]. A detailed listing of the data sources and data used in this paper is available from the author on request.

meters of the homicide function are sensitive to the inclusion of additional explanatory variables.

In Table II, H&W's 2SLS estimates of the U.S. homicide function are replicated[2] in equations (1) and (2). Table I defines the variables used in the regression analysis. There is a serious flaw in H&W's estimates replicated in equations (1) and (2). They fail to correct for statistically significant first-order autocorrelation. Possibly they were misled by the reasonable looking Durbin-Watson statistics. The Durbin-Watson statistic, however, is not valid for 2SLS estimation.

Equations (3) and (4) report the 2SLS estimates with a correction for first-order autocorrelation.[3] The estimates of the first-order autocorrelation, $\hat{\rho}$, in equations (3) and (4), .572 and .535, respectively, are large and statistically significant. Contrary to H&W's estimates in equations (1) and (2), the coefficients on the probabilities of conviction and execu-

2. See Hoenack and Weiler [17, 334], table 2, equations 10 and 11. The author wishes to thank Hoenack and Weiler for providing me with their data.

3. Beach and MacKinnon's [1] method which retains the first observation has been used to correct for autocorrelation in the residuals. The instrumental variables include the lagged value of the dependent variable and the lagged values of the explanatory variables except for the time trend [12; 14].

Table II. H&W's Results Reconsidered

Equation	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable	q^*	q^*	q^*	q^*	q^*	q^*
ln *PA*	−.186	−.213	−.075	−.097	−.074	−.079
	(2.81)	(2.70)	(2.20)	(2.55)	(2.60)	(2.69)
ln *PC*	.0046	.010	−.0079	−.0030	−.0080	−.0057
	(.39)	(.72)	(1.33)	(.45)	(1.55)	(1.03)
ln *PE*	.00016	.00021	−.00098	−.0019	−.0011	−.0016
	(.05)	(.05)	(.63)	(1.15)	(.94)	(1.31)
ln *U*	−.0024	−.0030	−.0027	−.0028	−.0026	−.0027
	(.78)	(.82)	(1.35)	(1.27)	(1.36)	(1.30)
ln *Y*	−.0048	−.023	.0159	−.0036	.016	.0021
	(.13)	(.50)	(.64)	(.14)	(.67)	(.08)
ln *LFP*	.046	.068	−.053	−.036	−.055	−.053
	(.57)	(.62)	(.88)	(.51)	(.94)	(.80)
TT	.00042	.00093	−.00041	−.000047	−.00045	−.00016
	(.24)	(.44)	(.46)	(.05)	(.54)	(.18)
ln *A1424*	.022		.036		.035	
	(1.59)		(2.65)		(2.68)	
ln *A2124*		.016		.021		.022
		(1.07)		(1.50)		(1.48)
ln *A2529*	.039	.035	.031	.021	.030	.020
	(1.74)	(1.43)	(2.27)	(1.13)	(2.38)	(.96)
C	1.08	1.30	.445	.636	.438	.516
	(2.08)	(2.01)	(1.81)	(2.41)	(2.09)	(2.40)
$\hat{\rho}$			.572	.535	.568	.679
			(3.46)	(3.08)	(3.42)	(4.53)
DW	1.75	1.75	1.70	1.80	1.71	1.71
Period	1935–69	1935–69	1935–69	1935–69	1935–69	1935–69

Note: Equations (1)–(4) are estimated with 2SLS. Equations (1) and (2) replicate H&W's [17, 334] results. Equations (3) and (4) are estimated with a correction for first order autocorrelation. Equations (5) and (6) are estimated assuming *PA*, *PC* and *PE* are exogenous variables again with a correction for first order autocorrelation. The absolute value of *t*-statistics are given in parentheses.

tion in equations (3) and (4) are negative. Also, the ranking of the coefficients on ln*PA*, ln*PC* and ln*PE* in equations (3) and (4) is consistent with the "elasticity conditions."

The correct estimation of H&W's specification of the homicide function yields results consistent with the deterrence theory. The coefficients on the conviction and execution variables, however, remain insignificant in the correctly estimated regressions reported in equations (3) and (4). The weakness of H&W's argument will be demonstrated more convincingly in section III where the OLS regression estimates with lagged relative frequencies of punishment are reported. While both H&W and Ehrlich have used 2SLS estimation

Table III. Results of Hausman's Test

Regression Specification	Coefficients (Absolute Value of *t*-statistics in parentheses)		
	ln $\hat{P}A$	ln $\hat{P}C$	ln $\hat{P}E$
A1424 and *A2529*	.006	−.0022	−.0016
	(.09)	(.16)	(.67)
A2124 and *A2529*	.027	.012	−.0024
	(.35)	(.81)	(1.06)

based on different theoretical models,[4] the econometric justification for 2SLS estimation of the U.S. homicide function is weak.[5] It is possible to test whether the homicide function estimated with OLS methods is misspecified. Using a test developed by Hausman [15], which tests for correlation between the error term in an equation and the possibly endogenous variables, one cannot reject the hypothesis that the probabilities of punishment are exogenous variables. This result is of some importance because in cases where the explanatory variables are orthongonal to the error term, the use of 2SLS estimation yields inefficient estimates, whereas ordinary least squares methods yield efficient estimates.

The test is performed by estimating the regression

$$\mathbf{q}^* = \mathbf{X}_1\beta_1 + \mathbf{X}_2\beta_2 + \hat{\mathbf{X}}_1\alpha + \mathbf{u}, \tag{7}$$

where $\mathbf{q}^*$ is the $T \times 1$ vector of observations on homicides per capita, $\mathbf{X}_1$ is the $T \times 3$ matrix of observations on the relative frequencies of punishment, $\mathbf{X}_2$ is a $T \times 7$ matrix of exogenous variables in the homicide function and $\hat{\mathbf{X}}_1$ is a $T \times 3$ matrix of instruments for the relative frequencies of punishment. β_1, β_2, and α are coefficient vectors and $\mathbf{u}$ is a vector of error terms subject to first-order autocorrelation. The matrix of instruments, $\hat{\mathbf{X}}_1$, is found by regressing each of the relative frequencies of punishment on a set of instrumental variables which include the dependent variable lagged one year and the right-hand-side variables in the homicide function lagged one year as well as all the predetermined variables in H&W's [17, 329] model. A test of $H_0: \alpha = 0$ is a test for correlation between the error terms and the probabilities of punishment. If $H_0: \alpha = 0$ is rejected, this indicates that the OLS regression is misspecified and that the homicide function should be estimated with 2SLS. Estimation of equation (7) for the two specifications of the homicide function with different age distribution variables yields the estimates of α reported below in Table III.

The coefficients on the instruments for the probabilities of punishment in Table III are, with only one exception, less than their standard errors. The *F*-value for the test of the hypothesis $H_0: \alpha = 0$ is .67, well below the critical value of *F* for this test.[6] Clearly one cannot reject the hypothesis that the probabilities of punishment are exogenous. Because there is no evidence that the probabilities of punishment are endogenous and because

4. Ehrlich's decision to estimate the homicide function with 2SLS was based on an optimal law enforcement model. Ehrlich hypothesized that exogenous increases in the homicide rate would lead to increases in the probabilities of arrest, conviction, and execution. H&W's disequilibrium model of law enforcement predicts exogenous increases in the homicide rate will cause the probabilities of arrest, conviction and execution to fall.

5. The author [20; 21] did use 2SLS to estimate the Canadian homicide function. Unlike the U.S., Canada has a uniform crime code and law enforcement authority. Because of this difference it is more plausible to believe that law enforcement behavior is endogenous in Canada. The use of 2SLS estimation for the Canadian homicide function was supported by the use of Hausman's test.

6. The 5% critical value of *F* for 3 and 22 degrees of freedom is 3.05.

2SLS is less efficient than OLS when the explanatory variables are exogenous, the remaining regressions are estimated with OLS methods. Equations (5) and (6) in Table II report the results of estimating the homicide function assuming that *PA*, *PC* and *PE* are exogenous variables. As expected, the coefficients on the deterrence variables in (5) and (6) have smaller standard errors than the coefficients on the deterrence variables in equations (3) and (4) but the difference is not dramatic. The coefficients on the probabilities of conviction and execution in equations (5) and (6) are still less than twice their standard errors.

III. Updating the Homicide Regression and the Choice of Explanatory Variables

In this section the homicide function is estimated using the Vital Statistics data to measure homicides per capita. Bowers and Pierce [3, 187-89] argue persuasively that the FBI measure of homicides during the 1930s is suspect. In the 1930s when the FBI reporting system was just beginning the number of reporting agencies was relatively small. As Bowers and Pierce note, the FBI measure of homicides during the 1930s is 15% below the Vital Statistics measure of homicides. However, after 1939 the two series are in much closer agreement.

Despite Bowers and Pierce's criticism of Ehrlich for using the FBI measure of homicides, they do not present alternative regression estimates utilizing the Vital Statistics measure of homicides. Had Bowers and Pierce shown that the probabilities of punishment have insignificant coefficients in the regression with the Vital Statistics measure of homicides, their claim that Ehrlich's results are an illusion would have been strengthened considerably. H&W [17, 339] are aware of Bowers and Pierce's criticism of the FBI measure of homicides yet they too report only estimates of the homicide function using the FBI measure of homicides. Had Bowers and Pierce or H&W estimated the homicide function with the Vital Statistics measure of homicide they would have found that the resulting regression estimates support the deterrence theory more strongly than the regression estimates with the FBI measure of homicides.[7]

Measuring the Execution Risk

Before the homicide regression can be updated, some provision must be made for measuring the subjective probability of execution from 1968-76 when the relative frequency of execution was zero. Despite the fact that there were no executions in the U.S. from 1968-76, it is doubtful that potential murderers believed there was no possibility of being executed in these years. Another problem with assuming the subjective probability of execution is zero is that it makes the use of the log-linear functional form impossible because the logarithim of zero is undefined.

One solution to this problem is to use an alternative functional form that does not

7. For example reestimating equation (2), Table II with the Vital Statistics measure of homicides yields the following:

Variable	ln*PA*	ln*PC*	ln*PE*
Coefficient	−.136	−.029	−.0058
t-statistic	−1.86	−2.66	−1.64

measure the probability of execution in logarithims.[8] This approach will be discussed later in section IV. Ehrlich [6, 409] dealt with the problem of zero relative frequencies of execution in the last two years of his sample, 1968 and 1969, by assuming for measurement purposes that 1 execution occurred in each of the years 1968 and 1969. In this section two methods of measuring the probability of execution are used. First Ehrlich's approach is followed by arbitrarily assuming 1 execution per year from 1968 to 1976. Secondly, a Bayesian approach is used which allows potential criminals to annually revise their subjective probabilities in light of new information. The latter method is explained below.

Assume that potential murderers' uncertainty about the relative frequency of execution in 1968 can be described by a beta prior density function

$$f(Pe(t_0)|\alpha,\beta) = [\Gamma(\alpha+\beta)Pe(t_0)^{\alpha-1}(1-Pe(t_0))^{\beta-1}]/[\Gamma(\alpha)\Gamma(\beta)], \tag{8}$$

where $0<Pe<1$, $t_0 = 1968$ and Γ is the gamma function defined by

$$\Gamma(\alpha) = \int_0^\infty u^{\alpha-1}e^{-u}du \qquad \alpha>0. \tag{9}$$

The expected value of the relative frequency of execution in 1968 is

$$E[Pe(t_0)] = \alpha/(\alpha+\beta). \tag{10}$$

Given $c(t_0)$ independent convictions in 1968, $e(t_0)$ of which result in executions, the posterior distribution of $Pe(t_0)$ is also a beta distribution with a density function[9] $f(Pe(t_0+1)|\alpha+e(t_0), \alpha+\beta+c(t_0)-e(t_0))$. The expected vlaue of Pe in 1969 is given by

$$E[Pe(t_0+1)] = [\alpha+e(t_0)]/[\alpha+\beta+c(t_0)-e(t_0)]. \tag{11}$$

The annual revision of the beta distribution in light of new sample information gives the expected value of $Pe(t)$ in year t_0+j of

$$E[Pe(t_0+j)] = [\alpha+\sum_{i=0}^{j-1}e(t_0+i)]/[\alpha+\beta+\sum_{i=0}^{j-1}c(t_0+i)-e(t_0+i)], \tag{12}$$

where $j = 1, \ldots 8$. Because $e(t) = 0$ from 1968 to 1976 equation (17) simplifies to

$$E[Pe(t_0+j)] = \alpha/[\alpha+\beta+\sum_{i=0}^{j-1}c(t_0+i)]. \tag{13}$$

The values of α and β are chosen in the following manner. After the class action suits filed by Anthony Amsterdam [17, 331] in 1965 there were only 3 executions in the U.S. in 1966 and 1967. From 1968 to 1976 there were no executions. The estimated sum of homicide convictions in 1966 and 1967 is 9436.[10] Based on the sample information in 1966 and 1967, it is assumed that $\alpha = 3$ and $\alpha+\beta = 9436$, yielding an expected value of Pe in 1968 in percentage points of .032. The implied values of the subjective probabilities of execution for 1969-76 are .0207, .0156, .0124, .0099, .0083, .0071, .0061, and .0052.[11]

8. Ehrlich [9] argues on both theoretical and empirical grounds that the probabilities of punishment should be measured in logarithims.

9. See DeGroot [4, 40, 60].

10. The number of convictions in 1966 and 1967 are calculated using the formula $PA_t \cdot PC_t \cdot Q_t$ where Q_t is the number of homicides and t is a subscript referring to the year.

11. The value of PE from 1933-67 and 1977 is measured by the number of executions divided by the estimated number of homicide convictions lagged one year. The estimates of homicide convictions are calculated as explained in footnote 10.

The Updated Regressions

The log-linear functional form is used in this section rather than the semilogarithmic form used by H&W. Ehrlich [9] found the cross-sectional evidence to be consistent with the log-linear functional form. Statistical justification for the log-linear functional form is presented in the next section. In the equations in Table IV, a single age distribution variable *A2129*, the proportion of the population between 21 and 29 years of age, is used rather than two separate age distribution variables.[12] Finally, three new explanatory variables are added to the regressions in Table IV. *NW*, the proportion of the population that is nonwhite, *REL*, the proportion of the population that belongs to a religion and *HWF*, the proportion of families with both husband and wife present.

Equations (14) and (15) in Table IV present the updated estimates of H&W's homicide regression treating the probabilities of punishment as exogenous variables. In equation (14) the probability of execution is measured using the Bayesian approach discussed previously. In equation (15) the probability of execution is measured by assuming 1 execution per year in the years when there were no executions, 1968-1976. The alternative measures of the probability of execution used in equations (14) and (15) yield similar estimates of the elasticity of homicide with respect to the conditional probability of execution, respectively, −.076 and −.068. These estimates are comparable to the estimates reported by Ehrlich [6, 410].

The probability of arrest, the conditional probability of conviction and the conditional probability of execution all have negative and statistically significant coefficients in equations (14) and (15). Furthermore, the magnitudes of the coefficients on the probabilities of punishment are consistent with the "elasticity conditions." The coefficients on the probability of arrest in equations (14) and (15) are larger at the 5% significance level than the coefficients on the conditional probability of conviction which are in turn larger at the 5% significance level than the coefficients on the conditional probability of execution.

As expected, the age distribution variable *A2129* has positive and statistically significant coefficients in equations (14) and (15). The unemployment rate and the labor force participation rate are included in the regressions as measures of the opportunity costs of committing homicide. The unemployment rate is expected to have a positive effect on the homicide rate and the labor force participation rate is expected to have a negative effect. Although the coefficients on the unemployment and labor force participation rates have the expected signs in equations (14) and (15), none of these coefficients are significant. The coefficient on permanent income has a positive but insignificant coefficient in equations (14) and (15) and the coefficients on the time trend are negative and insignificant. Finally, neither equation exhibits much autocorrelation in the residuals.

In the next four equations in Table IV potential murderers' subjective probabilities of punishment are measured by averaging the current values of *PA*, *PC* and *PE* with the two previous years' values. Thus $PA3 = (PA + PA_{-1} + PA_{-2})/3$, $PC3 = (PC + PC_{-1} + PC_{-2})/3$ and $PE3 = (PE + PE_{-1} + PE_{-2})/3$ are used rather than the current values of *PA*, *PC*, and *PE*. This averaging process produces a smoother, less erratic series for these variables which probably corresponds more closely to potential murderers' subjective probabilities than the current relative frequencies.

12. The use of a single age distribution variable instead of two separate age distribution variables makes little difference in the regressions results.

Table IV. Updated OLS Estimates of the U.S. Homicide Function

Equation	(14)	(15)		(16)	(17)	(18)	(19)
Dependent Variable	ln q	ln q		ln q	ln q	ln q	ln q
ln *PA*	−2.24	−2.31	[ln *PA3*]	−1.57	−1.34	−1.21	−1.37
	(5.91)	(5.47)		(4.57)	(4.81)	(3.95)	(4.00)
ln *PC*	−.315	−.307	[ln *PC3*]	−.436	−.544	−.547	−.548
	(4.79)	(4.12)		(11.8)	(11.6)	(9.78)	(10.45)
ln *PE*	−.076		[ln *PE3*]	−.103	−.098	−.102	−.103
	(5.21)			(12.0)	(13.0)	(13.2)	(13.51)
ln *PE**		−.068					
		(3.99)					
TT	−.013	−.011		−.023	−.005	−.013	−.008
	(1.35)	(1.02)		(3.33)	(1.32)	(1.51)	(2.06)
ln *A2129*	.462	.533		.392	.200	.159	.103
	(3.15)	(3.36)		(4.44)	(2.89)	(1.33)	(2.08)
ln *U*	.010	.015		−.025	−.027		
	(.31)	(.40)		(1.51)	(1.86)		
ln *LFP*	−1.03	−.842		−2.33	−2.18	−2.04	−1.95
	(1.50)	(1.03)		(7.48)	(8.11)	(7.35)	(6.35)
ln *Y*	.244	.256		.297	.244	.422	.340
	(.87)	(.80)		(1.98)	(2.28)	(5.42)	(2.94)
ln *NW*				1.10		.333	
				(1.91)		(.50)	
ln *REL*					−1.11	−1.17	−1.29
					(3.47)	(2.44)	(3.97)
ln *HWF*							.378
							(.67)
C	7.33	7.74		6.22	2.21	1.20	1.60
	(4.84)	(4.56)		(7.08)	(1.50)	(.67)	(.80)
$\hat{\rho}$	.004	.153		−.272	−.403	−.360	−.364
	(.024)	(.87)		(1.60)	(2.48)	(2.13)	(2.17)
R^2	.973	.957		.996	.998	.997	.997
Period	1936–77	1936–77		1936–77	1936–77	1936–77	1936–77

Note: Absolute value of *t*-statistics in parentheses.

Another advantage of averaging the current values of *PA*, *PC*, and *PE* with their lagged values is that it further justifies treating the probabilities of punishment as exogenous variables. Changes in the current homicide rate may affect current and future relative frequencies of punishment in the manner suggested by H&W, but the current homicide rate should have no effect on past values of *PA*, *PC* and *PE*.

As mentioned earlier, some new variables have been added to the regressions in Table IV. Because a disproportionate number of homicide victims and persons arrested for

homicide are nonwhite, *NW* is expected to have a positive effect on the homicide rate. Ehrlich [5; 9] found in his cross-sectional studies that the proportion of state population that is nonwhite is positively associated with homicide and other felony crime rates. The religion variable, *REL*, is included in the regressions as a measure of the quality of the environment, moral inhibitions of committing homicide, or possibly as a measure of fears of other worldly punishment for committing homicide.

In equations (16)-(19) in Table IV, the coefficients on *PA3*, *PC3* and *PE3* are all negative and highly significant. Comparing equations (14) and (15) with equations (16)-(19), the averaging process reduces the magnitude of the coefficients on the arrest variable but increases the magnitude of the coefficients on the conviction and execution variables. In the latter 4 equations in Table IV, the coefficients on the conviction and execution variables have much larger *t*-statistics than in equations (14) or (15). The *t*-statistics on *PC3* in equations (16)-(19) range from −9.78 to −11.8; the *t*-statistics on *PE3* in equations (16)-(19) range from −12 to −13.5. The much larger *t*-statistics on the conviction and execution variables in the last 4 regressions in Table IV are consistent with the belief that averaging the relative frequencies of punishment over a number of years produces a better measure of criminals' subjective probabilities of punishment than the use of the current relative frequencies of punishment.

Averaging the relative frequencies of punishment has some important effects on the other estimated coefficients too. In contrast to the positive coefficients on the unemployment rate, *U*, in equations (14) and (15), the coefficients on the unemployment rate are negative in equations (16) and (17). In equation (18) and subsequent equations the unemployment rate is dropped from the regression. The coefficients on the labor force participation, *LFP*, in equations (16)-(19) are negative, as expected, and highly significant. The *t*-statistics on the permanent income variable, *Y*, are also much larger in equations (16)-(19) than in equations (14) and (15).

The coefficient on ln*NW* in equation (16) is positive as expected but not quite significant at the 5% level. The coefficient on ln*REL* in equation (17), −1.11, is an estimate of elasticity of homicide with respect to the proportion of the population that belongs to an organized religion. According to this estimate a 10% increase in *REL* would reduce the homicide rate by approximately 11%. The coefficient on the religion variable in equation (17) is significant at the 1% level.

Equation (18) shows the results of including both the nonwhite and religion variables in the regression. The religion variable remains significant at the 5% level but the *t*-statistics on the nonwhite variable drops sharply. The age distribution variable also becomes insignificant in equation (18). The coefficients on the nonwhite and age distribution variables in Table IV illustrate what Leamer [22; 23; 24] and other econometricians have been emphasizing recently, that the significance and even the sign of regression coefficients often depend on the set of explanatory variables chosen by the researcher.

Fragility of the Regression Results

To examine the fragility of the regression results in Table IV in a systematic way, the homicide function is estimated with a large number of alternative specifications. Each specification consists of a different subset of explanatory variables taken from a set of variables that includes all the variables listed in Table IV plus the following variables: the

Table V. Specification Search

Variable	*N*	Negative Coefficient	Negative and Significant	Positive Coefficient	Positive and Significant
ln *PA3*	210	209 (.995)	134 (.638)	1 (.005)	0 (.0)
ln *PC3*	210	210 (1.0)	210 (1.0)	0 (.0)	0 (.0)
ln *PE3*	210	210 (1.0)	210 (1.0)	0 (.0)	0 (.0)
TT	210	173 (.824)	111 (.529)	37 (.176)	2 (.01)
ln *A2129*	210	7 (.033)	0 (.0)	203 (.962)	87 (.414)
ln *LFP*	84	84 (1.0)	84 (1.0)	0 (.0)	0 (.0)
ln *Y*	84	10 (.119)	0 (.0)	74 (.881)	25 (.298)
ln *REL*	84	84 (1.0)	72 (.857)	0 (.0)	0 (.0)
ln *HWF*	84	0 (.0)	0 (.0)	84 (1.0)	26 (.310)
ln *U*	84	63 (.750)	29 (.345)	21 (.250)	0 (.0)
ln *NW*	84	13 (.155)	0 (.0)	71 (.845)	12 (.143)
ln *MALE*	84	84 (1.0)	18 (.214)	0 (.0)	0 (.0)
ln *WELF*	84	49 (.583)	10 (.119)	35 (.417)	3 (.036)
ln *SCH*	84	27 (.321)	7 (.083)	57 (.690)	28 (.357)
INF	84	6 (.071)	0 (.0)	78 (.929)	4 (.048)

Note: N = number of specifications in which variable appeared. Percentages expressed as a proportion of N are given in parentheses.

proportion of the population that is male (*MALE*), real welfare payments (*WELF*), median years of schooling (*SCH*), inflation (*INF*) and the proportion of families that have both husband and wife present (*HWF*).

Each specification consists of 9 explanatory variables: *PA3*, *PC3*, *PE3*, *TT*, *A2129*, plus 4 other variables taken from the 10 remaining variables described above.[13] The total number of specifications is given by $10^{C}4 = 210$. Table V summarizes the results by the sign and significance of the estimated coefficients. A coefficient is considered "significant" in Table V if its *t*-statistic is greater than 2 in absolute value.

In every regression but one, *PA3* has a negative coefficient and the arrest variable is negative and significant in 134 of the 210 specifications. The conviction and execution variables are negative and significant in every one of the 210 specifications. Clearly the conviction and execution variables are robust with respect to the choice of explanatory variables. A further examination of the regressions shows that in 183 of the 210 specifications the magnitude of the coefficients on ln*PA3*, ln*PC3* and ln*PE3* are in accordance with the "elasticity conditions."

Concerning the non-deterrence variables, the labor force participation rate has negative and significant coefficients in each of the 84 specifications in which this variable was used. The religion variable also has negative coefficients in each of the 84 regressions in

13. To provide a valid test of the deterrence theory one must include all 3 of the conditional probabilities of punishment.

which it was used.[14] In 72 of the 84 specifications the coefficient on the religion variable is significant. Two other variables that have coefficients with the same sign in each specification are: (1) the proportion of families with husband and wife present and (2) the proportion of the population that is male. Ironically, both of these variables have coefficients with unexpected signs.

In each of the 84 specifications the proportion of families with both husband and wife present has positive coefficients. It was thought that the proportion of families with both husband and wife present would measure the quality of the social environment and hence would be negatively related to the homicide rate. However, an alternative explanation for the effect of HWF consistent with the positive coefficients on this variable is that separation of antagonistic spouses reduces the number of homicides by spouses. The coefficients on HWF are significant in 26 of the 84 specifications. Because a disproportionate number of the persons arrested for homicide are males, it was thought that the proportion of the population that is male might have a positive effect on the homicide rate. However, in each case the coefficient on this variable is negative, although the coefficients are significant in only 18 of the 84 specifications.

The age distribution variable *A2129*, has positive coefficients in 203 of the 210 specifications in which this variable appears. In 87 of these specificatons the coefficients on the age distribution variable are positive and significant. The time trend has negative coefficients in 173 of the 210 specifications in which it appears and in 111 specifications the coefficients are negative and significant. The permanent income variable, Y, has positive coefficients in 74 of the 84 specifications in which it appears and has positive and significant coefficients in 25 of the specifications.

Interestingly, the inflation rate has positive coefficients in 78 of the 84 specifications in which this variable appears. However, this variable is only significant in 4 of the 84 specifications in which it appears. The proportion of the population that is nonwhite has positive coefficients in 71 of the 84 specifications in which it appears but has positive and significant coefficients in only 12 cases. The effects of the remaining 3 variables — unemployment, real federal welfare payments, and schooling — are inconsistent and in most specifications insignificant.

Based on the specification search described in Table V and other considerations equation (19) in Table IV represents the specification of the homicide function that is used for subsequent analysis in this paper. Aside from the deterrence variables, *PA3*, *PC3* and *PE3*, the explanatory variables included are the time trend, age distribution, labor force participation, permanent income per capita, the proportion of the population that is a member of a religious group and the proportion of families with both husband and wife present. The coefficient on $\ln HWF$ in equation (19), .378, is positive but insignificant. The inclusion of the new variable in the homicide function has little effect on the other estimated coefficients as can be seen by comparing equations (16)-(18) to equation (19).

Tradeoff of Executions for Murders

The *ceteris paribus* tradeoff of executions for homicides evaluated at the mean number of homicides $\bar{Q}$ and the mean number of executions $\bar{E}$ is given by

14. However, if the probabilities of punishment are measured by their current values *PA*, *PC*, and *PE*, rather than their averaged values *PA3*, *PC3*, and *PE3*, the coefficient on the religion variable is sometimes positive.

$$\Delta Q/\Delta E = \hat{\alpha}(\bar{Q}/\bar{E}). \tag{20}$$

where $\hat{\alpha}$ is the estimate of the elasticity of homicide with respect to the probability of execution. Letting $\hat{\alpha} = -.1$ based on the estimates reported in equations (16)-(19) of Table IV, the tradeoff of executions for murders is approximately −18.5.

This tradeoff is considerably larger than the estimate tradeoffs of −7 to −8 reported by Ehrlich [6, 414]. There are two reasons for the higher tradeoff reported in this paper. First from equation 20 the tradeoff increases proportionally with $\bar{Q}/\bar{E}$. In the updated sample used in this paper the value of $\bar{Q}/\bar{E}$ is larger than in Ehrlich's sample.[15] Secondly the value of $\hat{\alpha}(-.10)$ used in computing the tradeoff in this paper is larger than the $\hat{\alpha}$ values used by Ehrlich [6, 410], −.06 and −.065.

A number of qualifications should be considered in interpreting the estimated tradeoff of executions for homicides. First the standard errors of the point estimates of α should be considered. From equations (19) in Table IV, the 99% confidence interval for α is (−.082, −.124). The confidence intervals for α based on equations (16)-(18) yield similar ranges. Evaluating the tradeoff at the lower and higher range of the confidence interval yields tradeoffs of −15.2 and −23, respectively. More importantly the estimated value of α varies considerably depending on the choice of explanatory variables used. From the specification search discussed earlier, 210 different regressions were considered. The values of α in these regressions ranged from a low of −.046 to a high of −.152. The corresponding tradeoff of executions for homicides ranges from −8.5 to −28. It is interesting to note that even at the lower range of α the tradeoff is still substantial.

Finally the estimated tradeoffs reported in this paper are calculated under the *ceteris paribus* assumption. Under certain conditions this may give misleading estimate of the true tradeoff. For example, if juries react to an increased relative frequency of execution by demanding greater proof of guilt before convicting, an increase in the probability of execution may reduce the probability of conviction, wholly or partially offsetting the deterrent effect of the increase in the probability of execution.[16] The author investigated this possibility by regressing the probability of conviction on the probability of execution and other explanatory variables. These regressions provide no evidence in favor of the hypothesis that the probability of execution has a negative effect on the probability of conviction.

IV. The Choice of Functional Form and the Stability of the Homicide Function over Time.

As mentioned in the introduction, Bowers and Pierce [3], Passell and Taylor [26] and Klein, Forst and Filatov [19] have criticized Ehrlich's time-series results as being sensitive to the choice of time period and functional form. To check the stability of the homicide regression over time, equations (21)-(24) in Table VI report the results of estimating the homicide regression over alternative subperiods of the full sample. Equation (21) presents the full sample (1963-77) regression. Equation (22) is estimated over the 1936-69 period to check how sensitive the regression results are to omitting the 1970s data from the sample.

15. For the updated sample used in this paper $\bar{Q} = 10696$ and $\bar{E} = 58$. For Ehrlich's [6, 414] sample $\bar{Q} = 8965$ and $\bar{E} = 75$.

16. The author [20, 68] found some evidence of a negative relationship between *PC* and *PE* in his study of homicide in Canada.

Table VI. OLS Estimates of the Homicide Function Over Alternative Time Periods

Equation	(21)	(22)	(23)	(24)
Dependent Variable	ln q	ln q	ln q	ln q
ln *PA3*	−1.37	−1.20	−2.02	−1.62
	(4.00)	(3.66)	(3.57)	(3.78)
ln *PC3*	−.548	−.543	.382	−.576
	(10.4)	(11.4)	(0.34)	(7.34)
ln *PE3*	−.103	−.130	−.073	−.119
	(13.5)	(9.11)	(1.52)	(9.26)
TT	−.0083	−.017	−.016	−.0075
	(2.06)	(3.34)	(1.64)	(1.69)
ln *A2129*	.103	−.0087	−.226	.130
	(2.08)	(.13)	(1.73)	(2.00)
ln *LFP*	−1.95	−2.86	−3.28	−1.93
	(6.35)	(6.39)	(6.02)	(5.63)
ln *Y*	.340	.319	−.225	−.063
	(2.94)	(1.79)	(.64)	(.20)
ln *REL*	−1.29	−.886	.173	−.685
	(3.97)	(2.44)	(.21)	(1.24)
ln *HWF*	.378	1.14	4.47	.063
	(.67)	(.96)	(2.03)	(.10)
C	1.60	.731	7.93	6.02
	(.80)	(.29)	(1.69)	(1.57)
$\hat{\rho}$	−.364	−.465	−.605	−.439
	(2.17)	(2.66)	(2.64)	(2.25)
R^2	.997	.998	.999	.998
Period	1936–77	1936–69	1936–57	1944–77

Note. Absolute value of *t*-statistics are given in parentheses.

Equation (23) reports the regression estimated over the even shorter 1936-57 period. In equation (24) the regression is estimated from 1944-77 to check how sensitive the results are to omitting the first 8 years of the sample. Bowers and Pierce [3] argue that the FBI data on conviction rates is unreliable until the 1940s.

Comparing equations (22) and (24) to the full sample regression, equation (21), one can see that deleting the first 8 observations or the last 8 observations from the sample does not substantially alter the coefficient estimates, or their *t*-statistics. Deleting the last 8 observations from the sample causes the coefficient on the age distribution variable to switch from positive to negative; deleting the first 8 observations causes the coefficient on permanent income per capita to switch from positive to negative. In equation (23), estimated from 1936-57, the *t*-statistic on the coefficient on ln *PE3* falls to −1.52 which is not significantly different from 0 at the 5% level. It is possible, as Passell and Taylor [26] argue, that the sharp decline in the execution rate in the late 1950s and 1960s is a proxy for some

Table VII. Stability of the Homicide Function Over Time

Period	SSR × 100	SE × 100	F	$F_{.95}$	F'
1936–55	.405078	2.01265	.82	2.30	1.75
1936–56	.503054	2.13851	1.65	2.30	1.44
1936–57	.539733	2.12080	1.54	2.30	1.30
1936–58	.694215	2.31087	1.08	2.30	.823
1936–59	.699655	2.23552	1.39	2.30	1.22
1936–60	.725234	2.19884	1.60	2.30	1.14
1936–61	.725258	2.12905	1.84	2.30	1.26
1936–62	.737985	2.08353	2.64	2.30	1.59
1936–63	.763841	2.05999	3.06	2.30	1.70
1936–64	.848132	2.11273	2.55	2.30	1.15
1936–65	.852513	2.06[illegible]	2.52	2.30	1.31
1936–66	.894152	2.06346	2.01	2.28	1.35
1936–67	.978733	2.10921	1.92	2.30	1.22
1936–68	.979003	2.06314	2.23	2.32	1.46
1936–69	.999335	2.04056	2.51	2.36	1.66
1936–70	1.00338	2.00338	2.96	2.41	2.04
1936–71	1.11938	2.07492	2.77	2.47	1.70
1936–72	1.18212	2.09242	2.98	2.57	1.76
1936–73	1.31173	2.16443	2.79	2.71	1.08
1936–74	1.41293	2.20730	2.89	2.93	.0002
1936–75	1.41294	2.17020	4.48	3.32	—
1936–76	1.76421	2.38558	1.24	4.15	—
1936–77	1.83472	2.39447	—	—	—

unknown omitted variables that are really responsible for the rising homicide rate during this period. Another explanation for the insignificant coefficient on ln*PE3* (and ln*PA3*) in equation (23) is the small number of degrees of freedom — 13 — combined with the multicollinearity among the explanatory variables.[17]

To examine the stability of the homicide regression more systematically, Table VII reports the sum of squared residuals (SSR) and the standard error of the homicide regression (SE) over different time periods beginning with 1936-55 and ending with 1936-77. From column 3 in Table VII one can see that the standard error of the regression is reasonably stable over time, exhibiting no systematic trend. Inspection of column 2 in the table shows a very large increase in the SSR from 1975 to 1976. The large jump in the SSR from 1975 to 1976 is associated with a sharp decline in the homicide rate in 1976. The homicide rate reached its minimum sample value in 1957 and except for a very slight

17. Examples of first-order correlations between variables for the 1936-57 period are: *TT* and ln*Y*(.976), *TT* and ln*REL*(.973), *TT* and ln*PE3*(−.954), ln*PE3* and ln*Y*(−.936), ln*PE3* and ln*REL*(−.906), ln*PE3* and ln*PA3*(−.899).

decline in 1961 the homicide rate increased steadily from 1957 to 1974. From 1962 to 1974 the average annual rate of increase in the homicide rate was 6%. In 1975 the homicide rate fell by a small amount and then fell very sharply by more than 9% in 1976. The large increase in the SSR from 1975 to 1976 in column 2 reflects the fact that the regression equation does not predict the sharp decline in the homicide rate in 1976.

Column 4 reports the F-values for the Chow tests of the equality of the coefficients for the subperiod in column 1 and the subperiod consisting of the remaining years in the full sample. For example, the first F-value in column 4 is for the test of the hypothesis that the regression coefficients are equal over the 1936-55 and 1956-77 subperiods. Beginning with the 1936-66 and 1967-77 subperiods the F-values are calculated using the Chow test for the case of insufficient degrees of freedom. The 5% critical values of F are reported in column 5.

If the full sample is divided between 1962 and 1965 or between 1969 and 1973 the hypothesis that the coefficients are equal over the two subperiods is rejected at the 5% level. However, if one divides the sample between 1955 and 1961 or between 1966 and 1968, the hypothesis that the regression coefficients are equal over the two subperiods is not rejected. One might argue that dividing the sample at 1957 provides the most plausible division. The trend of the homicide rate was negative from the early 1930s to 1957. In 1957 the homicide rate reached its minimum sample value; thereafter the trend of the homicide rate was increasing until 1974. The F-statistic for the hypothesis that the coefficients are equal from 1936-57 and 1958-77 is 1.54 which is well below the 5% critical value of F.

Even if one were to believe that the division of the sample between 1962 and 1965 or between 1969 and 1973 is more appropriate than some other division, the increased efficiency from using the full sample regression estimates may outweight the bias in the coefficient estimates resulting from the restriction that the coefficient estimates be equal in the two subperiods. Wallace [28] has shown that if the goal is to minimize the weighted average of the mean square errors of the coefficient estimates, the resulting critical values of F are higher than the conventional F-values for Chow tests. Using Goodnight and Wallace's [13] tables for the weak MSE test for restrictions in regressions, the critical 5% F-value is, 4.29. From column 3 of Table VII the 5% critical value of F for the weak MSE test is never exceeded.

Column 6 presents the F-values for the hypothesis of equal coefficients over the subperiod indicated in column 1 and the remaining years in the full sample except for the last two years, 1976 and 1977. The largest F-value in column 6 is 2.04 which is below the 5% critical of F for the conventional Chow test. Even the weak evidence of instability in the homicide function depends critically on the last two years of the sample. By deleting the last two years from the sample there is no partition of the sample that yields an F-value which exceeds the 5% critical value of F for the Chow test. In summary, the homicide function appears to be reasonably stable over time. The evidence for instability of the homicide is weak and critically dependent on the last two years of the sample.

To test for the optimal functional form for the time-series data, suppose the model to be estimated with the time-series data is

$$q_t^{(A1)} = c + B_1 PA3_t^{(A2)} + B_2 PC3_t^{(A2)} + B_3 PE3_t^{(A2)} + B_4 Y_t^{(A2)} + B_5 LFP_t^{(A2)} + B_6 TT + B_7 A2129_t^{(A2)} + B_8 REL^{(A2)} + B_9 HWF^{(A2)}. \quad (25)$$

$$u_t = \rho u_{t-1} + \epsilon_t.$$

where $|\rho| < 1$ and ϵ_t is $NID(0,\sigma^2)$. The Box-Cox [2] transformation of the dependent variable is defined by

$$q_t^{(\lambda 1)} = (q_t^{\lambda 1} - 1)/\lambda 1 \quad \text{for } \lambda 1 \neq 0, \tag{26}$$

and

$$q_t^{(\lambda 1)} = \ln q_t \text{ for } \lambda 1 = 0.$$

The transformation of the right-hand-side variables are similarly defined. The log-linear functional form is represented by $(\lambda 1, \lambda 2) = (0, 0)$ and the linear functional form is represented by $(\lambda 1, \lambda 2) = (1, 1)$.

Letting $\mathbf{q}^{(\lambda 1)}$ be the vector of transformed observations on the homicide rate, $\mathbf{X}^{(\lambda 2)}$ the matrix of transformed observations on the right-hand-side variables, and $\mathbf{B}$ the vector of coefficients, the log likelihood function for the sample of observations on the homicide rate is

$$L = -T/2[\ln(2\pi\sigma^2)] + 1/2\ln(1-\rho^2) - 1/2(\sigma^2)[\mathbf{q}^{(\lambda 1)} - \mathbf{X}^{(\lambda 2)}\mathbf{B}]' \mathbf{V}^{-1}[\mathbf{q}^{(\lambda 1)} - \mathbf{X}^{(\lambda 2)}\mathbf{B}] + (\lambda 1 - 1) \sum_{t=1}^{T} \ln q_t, \tag{27}$$

where $\mathbf{V}^{-1}$ is the matrix

$$\begin{bmatrix} 1 & -\rho & 0 & \cdot & \cdot & \cdot & 0 & 0 \\ -\rho & 1+\rho^2 & -\rho & 0 & \cdot & \cdot & 0 & 0 \\ 0 & -\rho & 1+\rho^2 & & & & \cdot & \cdot \\ \cdot & 0 & & & & & \cdot & \cdot \\ \cdot & \cdot & & & & & \cdot & \cdot \\ \cdot & \cdot & & & & & \cdot & \cdot \\ & \cdot & & & & & 1+\rho^2 & -\rho \\ 0 & 0 & & & & & -\rho & 1 \end{bmatrix}$$

Letting the first three terms in equation (27) be denoted by L_1, equation (27) simplifies to

$$L = L_1 + (\lambda 1 - 1) \sum_{t=1}^{T} \ln q_t. \tag{28}$$

For given values of $\lambda 1$ and $\lambda 2$, maximizing L_1 with respect to $\mathbf{B}$, σ^2, and ρ is the same as maximizing the log-likelihood function for a linear regression with autocorrelated errors. Beach and MacKinnon's [1] maximum-likelihood technique is used to estimate L_1 for given values of $\lambda 1$ and $\lambda 2$ and then it is a simple matter to add L_1 and $(\lambda 1 - 1)\Sigma \ln q_t$ to find L.[18]

In Table VIII, the values of the estimated log likelihood function for the 1936-77 data

18. See Seaks and Layson [27] for a more detailed discussion of this procedure.

Table VIII. Test for Functional Form

$\lambda 2$	$\lambda 1^*$	L	$\lambda 2$	$\lambda 1^*$	L
−2.0	.0	197.4	.1	−.4	222.0
−1.9	.0	197.5	.2	−.5	220.5
−1.8	.0	197.5	.3	−.5	218.3
−1.7	.0	197.4	.4	−.5	215.6
−1.6	−.1	197.5	.5	−.4	212.6
−1.5	−.1	197.4	.6	−.3	209.6
−1.4	−.1	197.4	.7	−.1	207.0
−1.3	−.1	197.3	.8	.0	204.7
−1.2	−.1	197.2	.9	.1	203.0
−1.1	−.1	197.1	1.0	.2	201.9
−1.0	−.1	197.1	1.1	.2	201.2
−.9	−.1	197.0	1.2	.3	201.0
−.8	−.1	197.0	1.3	.3	201.0
−.7	−.1	197.1	1.4	.3	201.2
−.6	−.1	197.4	1.5	.3	201.6
−.5	.0	198.0	1.6	.4	202.0
−.4	.8	199.8	1.7	.4	202.6
−.3	.6	209.0	1.8	.4	203.2
−.2	.3	216.5	1.9	.4	203.9
−.1	.0	220.8	2.0	.4	204.5
.0	−.3	222.3	2.1	.4	205.1

are computed for different pairs of $(\lambda 1, \lambda 2)$. In constructing Table VIII the value of $\lambda 2$ was allowed to vary between −2 and 2.0 in increments of .1, and then for each value of $\lambda 2$, the value of $\lambda 1$ was allowed to vary between −2 and 2 in increments of .1. Letting $\lambda 1^*$ be the value of $\lambda 1$ that maximizes L for a given value of $\lambda 2$, the values of L for different ordered pairs $(\lambda 1^*, \lambda 2)$ are reported in Table VIII.

The global maximum value of the likelihood function in Table VIII is 222.33 at $(\hat{\lambda}1, \hat{\lambda}2) = (-.3, 0)$. The results of estimating this regression are given by

$$
\begin{aligned}
q^{(-.3)} = {} & 3.04 - \underset{(.70)}{2.82}\ln PA3 - \underset{(3.84)}{1.25}\ln PC3 - \underset{(11.1)}{.246}\ln PE3 \\
& - \underset{(15.2)}{.020}\,TT + \underset{(2.30)}{.207}\ln A2129 - \underset{(1.98)}{5.41}\ln LFP \\
& + \underset{(8.23)}{.839}\ln Y - \underset{(3.32)}{3.27}\ln REL + \underset{(4.71)}{.717}\ln HWF, \qquad \hat{\rho} = -.465. \qquad (29)
\end{aligned}
$$