Chapter 1

Technology and Rights in Criminal Justice

THE TECHNOLOGICAL REVOLUTION IN CRIMINAL JUSTICE

As recently as the 1960s, criminal justice institutions lagged far behind business and Federal Government agencies in adopting new technology.[1] Then, in 1967, the President's Commission on Law Enforcement and Administration of Justice made sweeping recommendations for modernizing the administration of criminal justice with new technologies.[2] The technological innovations that followed in the next two decades have transformed nearly every component of the criminal justice system.[3]

This technological transformation is continuing. Advanced technology, growing directly out of recent developments in basic science, is finding immediate application in the investigation of crime—for example, DNA typing. New technologies are also used in trials and in judicial decisionmaking-for example, computer models based on social science research are used in assessing the likelihood of recidivism. Finally, new technologies such as electronic bracelets are being used in corrections. Others, such as hormonal therapy for sex offenders, are being tested in experimental programs.

Three categories of scientific knowledge appear most promising for criminal justice, in terms of the technological capabilities that they can provide. In criminal justice applications, these three areas of science and technology converge and complement each other.

The first is information science, already provialing the criminal justice system with abroad array of computer and telecommunications technologies. Surveillance technology can enhance the investigation of crime. Computers will offer nearly unlimited possibilities for aggregating information and sharing it with other criminal justice agencies. They can also be used to model or simulate the outcomes of alternative prevention and correction strategies.

The second important field is molecular biology (sometimes called "New Biology"). Studies of the chemical and genetic basis of human behavior or mental functioning promise new techniques for identification, testing, and screening, using body fluids or tissues. They may also become the basis of behavior modification or control.

The third field is social science research, still relatively underdeveloped by comparison with physical and biological sciences, but increasingly being used to build statistical and behavioral models and decision guidelines.

Each has a dark side, an aspect of social cost or social risk. Information technologies, for example, can lead to gross violations of individual privacy. The use of molecular biology to substitute "treatment for behavior disorders" for "punishment for criminal actions" is a profound change in the paradigms of social control. It brings into question the assumption of individual responsibility for behavior, which is one of the underlying principles of constitutional government. Social science models are constructed from data on populations or large groups of people. If used to predict individual behavior in making decisions about probation or sentencing, they could reinforce discriminatory stereotypes and penalize people who are

[1] Much of the material in this report draws on SEARCH Group, Inc., "New Technologies in Criminal Justice: An Appraisal, " David J. Roberts and Judith A. Ryder, Principal Authors, a contractor report prepared for the Office of Technology Assessment, March 1987.

[2] The President's Commission on Law Enforcement and Administration of Justice, The ***Challenge of Crime in a Free Society*** (Washington, DC: U.S. Government Printing Office, 1967), pp. 244-271.

[3] To assist criminal justice professionals in selecting technologies suited to their needs, the National Institute of Justice established the Technology Assessment Program (TAP). TAP is responsible for coordinating equipment testing, compiling and disseminating test results, and operating a reference and referral center. An Advisory Council recommends directions for future standards and tests.

poor, undereducated, or members of minorities. Under some circumstances, social science predictions of recidivism could result in decisions that approach being punishment in anticipation of crime.

In evaluating new and emerging technologies for use in criminal justice, one aspect that is sometimes overlooked is the possibility that they may affect the constitutional rights of those suspected, accused, or convicted of crime. For example, the development of wiretapping technology for the detection and investigation of crime resulted in several decades of uncertainty as to whether wiretapping without a judicial warrant was "an unreasonable search and seizure" in violation of the Fourth Amendment. It required repeated actions by both the Supreme Court and the Congress to fully resolve this uncertainty.

More recent technological innovations in law enforcement and criminal justice are likely to result in similar challenges to their constitutionality. One can anticipate some of these challenges by considering potential innovations in comparison with earlier innovations, and in the context of continuing trends in constitutional interpretation. Legislators and criminal justice administrators may then be able to shape the use of technology in ways that more clearly avoid infringing on constitutional rights.

CRIMINAL JUSTICE AND CONSTITUTIONAL PROTECTIONS

Articles I and III of the U.S. Constitution and 4 of the 10 amendments in the Bill of Rights address the rights of those suspected, accused, or convicted of crime. The Fourth, Fifth, Sixth, and Eighth Amendments include prohibitions against unreasonable searches and seizures (of evidence), double jeopardy, and forced self-incrimination; the guarantees of the rights to grand jury indictment, trial by jury, confrontation of witnesses, and calling of defense witnesses; and the far-reaching requirement of due process in criminal justice proceedings.

The writers of the U.S. Constitution were acutely aware that tyrannical governments had often used accusations of crime to rid themselves of political dissidents. They recognized also that in punishing crime, the state most directly and forcefully intervenes to take the life, liberty, or property of its citizens. Respect for the rights of even the most despicable violators of law and social order has been a fundamental cornerstone of American criminal justice, in theory if not always in practice. When, therefore, new scientific knowledge or new technological capabilities are brought into the service of law enforcement, it is right and necessary to inquire into their possible effects on constitutional safeguards. To begin that inquiry, it will be helpful to review briefly what those safeguards are.

Throughout the following discussion, reference will be made to the 14th Amendment, which is not part of the Bill of Rights. The 14th Amendment, ratified in 1868, provided that all persons born in this country (or later naturalized) are citizens of the United States and of the State in which they live. This was intended to protect former slaves and their descendants. The Amendment then says that:

> No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any State deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws.

Until 1868 the prohibitions and protections of the Bill of Rights restrained only the Federal Government.[4] Even after the 14th Amendment, the Supreme Court ruled in 1873 that most of the basic civil rights were not

[4] Most of the State constitutions also had Bills of Rights, but the Federal courts could not enforce these if State courts failed to do so.

privileges or immunities of U.S. citizenship, but resulted from State citizenship.[5] This meant that the 14th Amendment still did not subject the State governments to the restraints of the first 10 amendments. Instead, the Supreme Court used the 14th Amendment's Due Process Clause to protect the property rights of "corporate persons" by striking down a series of State laws aimed at improving working conditions.

Over the last four decades, however, the Supreme Court has reconsidered this position and has said that the Due Process Clause of the 14th Amendment incorporates most of the rights listed in the first 10 amendments. It has said in effect that "due process" summarizes fundamental concepts of justice and liberty, some of which are specified in the Bill of Rights. This includes most, although not all, of the protections in the Fourth, Fifth, Sixth, and Eighth Amendments, as will be noted in the discussion that follows.

State constitutions also include Bills of Rights. Now they are generally patterned on the U.S. Bill of Rights, but in 1789, the First Congress drew on provisions in some State constitutions, which incorporated some of the traditional common law rights of Englishmen, in framing the first 10 amendments. Today some of the rights guaranteed in State constitutions may go beyond the effective scope of Federal rights.

The Prohibition on Unreasonable Searches and Seizures

The meaning and scope of this Fourth Amendment prohibition has repeatedly been brought into question by changing technology. It reads:

> The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath and affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

British authorities in the American colonies had issued general "writs of assistance" that allowed searches at will or on slight suspicion, especially for contraband smuggled in violation of Parliamentary duties on imports. This was a factor in the unrest that eventually led to the American Revolution. The Fourth Amendment required a warrant issued by a magistrate,[6] so that law enforcement officials could not invade personal property and privacy at their own discretion, or for purposes of harassment. This constraint now applies to State government actions as a result of the 14th Amendment.

Nearly every phrase in the Fourth Amendment has been frequently challenged, often be cause of technological changes. Those who drafted this provision in 1789 could not have foreseen automobiles, wiretapping, remote sensing, or biosensors. As early as 1925 the Court allowed warrantless searches of moving vehicles because automobiles had made possible the rapid movement of suspects and evidence out of a jurisdiction.

Beginning in 1928 Congress and the Courts have had to consider whether use of electronic surveillance devices was a search and, more recently, whether accessing computerized databases was a seizure. Courts have had to decide whether evidence may besought in bank records, medical histories, and insurance files, on paper or in computerized databases.[7] Questions have arisen as to whether and when authorities may "seize" one's breath (for analysis for alcohol), or one's urine, semen, blood, or other fluids and tissues.

The development of electronic surveillance technology, biosensors and biological testing and screening technologies, and computer-

[5] The Slaughterhouse Cases, 83 U.S. 36 (1873)"

[6] During an arrest, a warrantless search is permissible if the authority has "probable cause" to believe a crime has been committed.

[7] Ralph C. Chandler, Richard A. Enslen, and Peter G. Renstrom, ***The Constitutional Law Dictionary*** (Santa Barbara, CA: ABC-CLIO, 1985), vol. 1, "Individual Rights, " p. 168, citing ***Zurcher v. Stanford Daily*** (436 U.S. 547: 1978).

matching and other data aggregation techniques has made many kinds of routine or random surveillance easier, cheaper, and less visible to those who are monitored. In many places, for example, police are increasingly using sobriety checks and photographing traffic to apprehend speeders; Federal and State agencies use computer-matching to detect fraud and abuse in welfare programs; and public employers use random drug testing to enforce workplace rules. In the past, concern about surveillance and privacy has generally focused on the constitutional rights of individuals who are suspected of criminal activity. But many people are now concerned that the increasing use of monitoring techniques may impinge on the privacy of the general public, and indicates a subtle widening of the net of social control that goes far beyond traditional democratic practices.

The Rights of the Accused

There are several specific protections for those accused of crime in the body of the U.S. Constitution, predating the Bill of Rights. Article I, Section 8, guarantees that the writ of *Habeas Corpus* shall not be suspended except in time of rebellion or invasion. The same Section prohibits *bills of attainder* and ex *post facto* laws.

Habeas Corpus means that a person may not be imprisoned without being brought before a judge, who ascertains that the imprisonment is legal and for cause. The name comes from a common law writ that usually began with those Latin words, which mean, "You should have the body ... ," i.e., have evidence that a crime has occurred. A bill of attainder removed all civil rights and protections from one who had been convicted of certain crimes, usually treason. An ex post facto law would make punishable some action performed before the law was passed.

Article III, Section 2 of the U.S. Constitution guarantees a trial by jury for all crimes. It also provides a strict definition of treason and the requirements for conviction of treason.[8]

Three amendments-the Fifth, Sixth, and Eighth—further protect the rights of those accused of crime. Most of these protections have, in the last two or three decades, also been held to apply to State actions.[9] Most State constitutions had similar protections, but they were not always enforced.

The Fifth Amendment begins with a provision that:

> No person shall be held to answer for a capital, or otherwise infamous crime, unless on a presentment or indictment of a Grand Jury . . .[10]

A resolution of the 1788 Massachusetts convention for ratification of the Constitution insisted that the right to a grand jury be added to the Constitution.[11] The right was already incorporated in the Constitution of the State of North Carolina. The concept of a grand jury goes back in English common law to the time of William the Conqueror, who took the throne of England in 1066 A.D. But the Fifth Amendment requirement of grand jury indictment does *not* apply to State governments.[12]

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[8] Section 2 also provides that the penalty shall not include "corruption of blood," i.e., no penalties such as loss of property . . — — can be visited on the children or inheritors of the convicted traitor. Such multigenerational penalties had been common in old world countries where prirnogeniture was practiced (i.e., estates were by law inherited intact by the oldest son).

[9] *Palko* v. *Connecticut*, 302 U.S. 319, 58 S. Ct. 149782 L. Ed" 288 (1937), established "selective incorporation" in determining which Bill of Rights provisions related to rights of the accused should be applied to State actions under the 14th Amendment. This was a case involving double jeopardy; the guideline or "rationalizing principle" enunciated by Justice Cardozo, was whether a particular protection is "of the very essence of a scheme of ordered liberty, " such that its bypassing would violate "a principle of justice so rooted in the tradition and conscience of our people as to be ranked as fundamental." This case held that the prohibition of double jeopardy was not so fundamental, but this was overturned later; now only the grand jury provision of the Fifth Amendment and the Excessive Fines and Bails prohibition of the Eighth Amendment have not been "selectivelv incorporated" as limitations on the States.

[10] The clause continues, " . . . except in cases arising in the land or naval forces or in the Militia, when in actual service in time of War or public danger; . . ." which the Supreme Court interprets to mean accusations against any member of the armed forces. Civilians, even dependents of military personnel or civilian employees of the military, may not be tried by military tribunals, and once discharged, a former member of the military cannot be prosecuted for crimes committed while in service, except in civil courts with grand jury protection. Edwin S. Corwin and J.W. Peltason, ***Understanding the Constitution (New*** York, NY: Holt, Rinehart, & Winston, 1967), p. 122. "Chandler et al., op. cit. footnote 7, p. 201.

[12] *Hurtado* v. *California* (110 U.S. 516: 1884); this ruling has prevailed over the following 100 years. Chandler, et al., op. cit. footnote 7, p. 197, p. 207.

The purpose of a grand jury is to indict or formally accuse one or more persons of crime, but only if there is sufficient evidence to justify a trial. A grand jury cannot convict one of having broken a law. It must refuse to indict if the evidence is inadequate to establish that a crime has occurred and there is cause to suspect the accused and to believe that his[13] conviction may result. Thus access to a grand jury is a protection against arbitrary actions and harassment of citizens by government or its officers. [14]

The Fifth Amendment also provides that no one may:

> . be subject for the same offense to be twice put in jeopardy of life or limb . . .

That is, one may not be tried twice in Federal courts for the same offense. If the government fails to get a conviction on the first attempt, it cannot continue to persecute or harass one through the threat of repeated trials. However, one may be subject to both civil and criminal penalties for the same act, and may also be tried by both Federal and State Governments for some actions. [15]

Under the Fifth Amendment, no person:

> shall be compelled in any criminal case to be a witness against himself. . . .

In English common law, this prohibition forbade torture or trial by ordeal. In modern times, it has protected one from being forced to give evidence against oneself in the courtroom. In this century, the question raised was whether one was protected only within the courtroom, or during police questioning as well. If one can be forced by the police to confess, or to provide evidence against oneself, protection against self-incrimination in courtroom testimony may be too late to be effective.

Until 1966, the Supreme Court used the Due Process Clauses in the Fifth and 14th Amendments to reverse convictions that rested on evidence gotten by the police through coercion, which might range from physical punishment through psychological pressure. [16] But in Miranda v. *Arizona*[17] in 1966, the Court specifically extended the reach of the prohibition on self-incrimination to police questioning, and said that no conviction would be upheld unless the suspect had been told his rights." A conviction can be reversed even if there is independent evidence sufficient to prove guilt.

Science and technology have raised questions about the scope of self-incrimination. Statements made under psychiatric examination are protected.[19] However, the protection against self-incrimination has not been extended to cover non-testimonial evidence provided by modern technology. The Court has

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[13] For simplicity, the male pronoun will be generally used in referring to one suspected, accused, or convicted of crime. Males commit the overwhelming proportion of crimes, as indicated by the fact that 94.8 percent of those in prison, as of June 30, 1987, are males (information supplied by the Bureau of Justice Statistics, U.S. Department of Justice).

[14] The evidence may be put before the grand jury by a prosecuting officer or maybe collected by the grand jury itself, through compelled testimony. There may not be more than 23 members of a grand jury, and 12 must agree on indictment.

[15] A person may be retried in Federal court for the same crime if there is no verdict because the jury cannot agree, or if the judge dismisses the jury or declares a mistrial before the verdict. He or she may also be retried if an appellate court sets aside a conviction because of an error in the proceedings. The test of whether an accusation is for "the same act" is whether the same evidence would be required to sustain a conviction.

[16] The prohibition against "if-kc rumination by compelled testimony has been held to apply not only in court proceedings but in other government investigating situations; for example, in answering questions put by congressional committees, where such answers might expose one to indictment and prosecution. This protection falls within the 14th Amendment's limitations on the States. It has been held to protect one against the risk of prosecution by States; and one can claim the right under the Fifth Amendment not to answer questions put by a State agency that might lead to Federal prosecution. However, the Federal Government may grant immunity from both Federal and State prosecutions, in which case a witness may be fined or imprisoned if he or she refuses to answer questions.

[17] 384 U.S. 436 (1966).

[18] Specifically, the suspect must be told that he has the right to remain silent, must be warned that anything he says may be used against him during trial, must be informed that he has a right to have a lawyer present during questioning, and must be told that the court will provide a lawyer if the suspect has no funds to pay for one.

[19] *Estelle v. Smith*, 451 U.S. 454 (1981). Psychiatric testimony was used at the sentencing stage (a separate hearing under Texas law). The Court held that self-incrimination is prohibited at all stages, applies to statements made to a psychiatrist when the psychiatrist testifies for the prosecution, and in general the protection is "as broad as the mischief against which it seeks to guard." See Chandler, et al., op. cit., footnote 7, pp. 227-228.

affirmed that police may cause a physician to draw blood from a suspect to determine its alcohol content when there is reasonable suspicion of drunkenness, even over the suspect's objections.[20] Evidence in the form of breath content, semen, hair, or tissue samples may also be taken without consent of the suspect, when taken in a manner that does not "shock the conscience. "[21]

The Sixth Amendment guaranteed the right to:

> . . . a speedy and public trial by an impartial jury . . .

in all criminal prosecutions. This right was intended to prevent "undue and oppressive incarceration prior to trial, to minimize anxiety and concern accompanying public accusation, and to limit the possibility that the delay will impair the ability of the accused to defend himself. '[22] It does not prevent long delays caused by the defendant and counsel themselves. Recently attention has turned to the question as to whether long delays do not threaten the public interest rather than those of the defendant, but this is not covered by the Sixth Amendment.

The right to a "public" trial has been challenged because of technology; does "public" mean that cameras must be allowed? Could trials be broadcast? The right to public trial is a right of the defendant and not a right of the press, and many verdicts have been challenged by those convicted on the grounds of too much rather than too little public involvement in trials.[23] Courts have allowed reporters and even television cameras access to public trials, but they are not required to do so.

Article III of the U.S. Constitution already required trial by jury of all Federal crimes, without the Eighth Amendment. This redundancy emphasizes its importance under English common law.[24] The right is construed to say that a trial jury must have no more and no less than 12 people, and a unanimous verdict is necessary for conviction.[25] The right to a jury trial maybe waived by a defendant, but a judge may still rule that a jury is necessary.

States are not prevented by the Sixth Amendment from having a jury of fewer than 12 in criminal procedures, nor must they require unanimous votes for conviction.

"Scientific" selection of juries–that is, attempts to influence the acceptance of 12 jurors to reflect demographic, social, economic, or cultural patterns desired by one side or the other —is a recent development. It is not yet clear whether it has constitutional aspects or implications.

The Sixth Amendment also requires that an accused person

> . . . be informed of the nature and cause of the accusation, . . . be confronted with the witnesses against him; . . . have compulsory process for obtaining witnesses in his favor, and have the Assistance of Counsel for his defense. "

The right to have "assistance of counsel, " by virtue of the Miranda decision, now begins as soon as the person is taken into custody by the police. Only in 1978 was this provision extended to the States under the 14th Amendment's Due Process Clause.

With new technology, courts have allowed certain accusers to be confronted by the accused only indirectly; for example, allegedly abused children have been questioned and videotaped in Judge's quarters, and the tapes later shown to the jurors.[26]

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[20] *Schmerber* v. *California*, 384 U.S. 757, 86 S. Ct. 1826 (1966).
[21] *Rochin v. California*, *342* U.S. 165 (1952).
[22] *United States* v. *Ewell*, 382 U.S. 117 (1966).
[23] Corwin and Peltason, op. cit., footnote 10, p. 126.

[24] The Seventh Amendment provides for trial by jury in common-law cases (civil litigation in Federal courts) when the value in controversy is over $2o and is of little import today. It does not apply to equity proceedings nor to cases arisingfrom statutory law, and it may be dispensed with by agreement of the two parties with the consent of the court.
[25] The jury requirement does not however apply to petty offenses, to deportation proceedings, nor to military tribunal proceedings.
[26] The right to be confronted in open court by accusers applies only to criminal trials, and not to, for example, deportation proceedings.

People who are accused may not be able to defend themselves adequately in court if they have been unable to seek evidence and witnesses because they were held in prison from the time they were accused until they were brought to trial. The Eighth Amendment forbids "excessive bail, " that is, bail should not be set prohibitively high, but only high enough to make it probable that the accused will appear for trial. A person can however be denied bail when the possible penalty for the crime is death, since avoiding this would be worth the loss of any amount of money.

The Bail Reform Act of 1966 allowed magistrates to take into account other factors, such as prior criminal offenses and family and community ties that would discourage running away. These changes reflect in part the results of social science research and computer simulations that relate such factors to the probability of undesirable future behavior. Recent legislation further eases the restrictions on pre-trial detention where there is reason to think the accused may commit other crimes while awaiting trial.

The Rights of Those Convicted of Crimes

Once convicted of a crime, people still have constitutional protections. The Eighth Amendment says that:

> Excessive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishments inflicted.

"Cruel and unusual punishment" in 1789 meant imposition of severe physical pain through such punishments as burning at the stake, crucifixion, breaking on the wheel, and the thumbscrew. It was not construed at that time or subsequently to include capital punishment, whether by the old technologies of hanging or shooting or the later technologies of electrocution, lethal gas, or injection. There has, however, been a movement in the direction of lethal technologies generally considered less painful to the victim. Arguments have been made that in the modern world, "early" death is less usual and hence more "cruel" than it was 200 years ago, but this has not been accepted by the courts. The Supreme Court has however recognized that the standard of "cruel and unusual" can change over time. It has declared that punishment is cruel and unusual when out of proportion to the offense, when it punishes illness (i.e., addiction to drugs, without evidence of a crime), or when it involves loss of citizenship (i.e., for desertion from the armed forces).

The protections of the Eighth Amendment apply against actions of the States under the 14th Amendment.

Due Process

The broadest, most frequently cited, and most frequently challenged protection of the Fifth Amendment, repeated in the 14th Amendment, is the provision that a person may not:

> . . . be deprived of life, liberty, or property, without due process of law. . . .

The Court has developed two complementary concepts of "due process," i.e., procedural due process and substantive due process. Procedural due process means that laws and their applications must not be arbitrary, vague, or inconsistent in effect; all legal standards and procedures should be basically "fair," regular, and ordered. Disputes about procedural due process under the Fifth Amendment have generally centered on whether this is an additional limitation on the Federal Government, or merely reinforces the other provisions of the Bill of Rights. Justice Black and other Justices have held the latter view, on the grounds that to strike down a law because it violates general standards of justice is to give too much discretion to courts, but there is no clear rule on this point.[27]

"Substantive due process" looks to the purpose and substance of a law or government procedure rather than to the way it is used. This concept holds that laws and policies *must be*

[27] Corwin and Peltason, op. cit., footnote 10, pp. 124-125.

rationally related to legitimate legislative objectives; some areas are beyond the reach of government power. This concept was developed and applied sporadically, after about 1890, first to strike down economic regulations that limited property rights, but later to expand the scope of personal rights, especially those related to contraceptive technology, abortion, and marital privacy .28 From 1890 to 1937, substantive due process was generally used to assert freedom of contract. The Court struck down laws fixing minimum wages and hours of labor, forbidding employers to fire workers for joining unions, and prohibiting child labor. After 1937, the Court refused to use the concept of substantive due process in this way. Thirty years later, it again began to use the concept to wall off from government interference certain private activities, primarily marriage, procreation, child rearing, and educational choice, held to be beyond the appropriate reach of legislation.

The Right of Privacy

Those who have been convicted of crime have a diminished right of privacy as compared with other people;[29] but this right does constrain the activities of governments in investigating, prosecuting, and punishing crime. The Bill of Rights does not use the word "privacy," nor is this right explicitly stated elsewhere in the U.S. Constitution; but the Bill of Rights as a whole is understood to define or indicate a "penumbra of privacy" where government should not intrude. Thirteen State constitutions contain explicit guarantees of a right to privacy. For example, the Constitution of the State of California includes the right to privacy among the "inalienable rights" listed in Article I, Section 1.[30]

At the Federal level, Judge Brandeis said in a 1928 wiretapping case that the Fourth and Fifth Amendments together recognized "a right to be let alone, which is the right "most valued by civilized men. "[31] Brandeis was however in dissent in that case. In a 1958 civil liberties case Justice Harlan spoke of the "vital relationship between freedom to associate (in the First Amendment) and privacy in one's associations. " In a 1969 pornography case Justice Marshall said that regulation of obscenity cannot extend into "the privacy of one's own home, " and that the government has no business to tell a man "sitting alone in his own house, what books he may read or what films he may watch."

The right to privacy was made explicit in *Griswold v. Connecticut,*[32] in 1965, striking down a contraceptive law. Since then it has been expanded to include other aspects of marriage, reproduction, and health. It is usually based on the Due Process Clause and on the Ninth Amendment doctrine of retained rights, and more generally on a "zone of privacy" or penumbra created by several fundamental constitutional guarantees.

The right to privacy has two slightly different aspects: one of personal autonomy, a sphere of action (such as reproduction) where the individual makes choices without interference by government unless there is a compelling public interest; and one of confidentiality, where government or the public in general has no right to know something about an individual. In general, the right to autonomy is diminished when one is formally accused of crime and very narrowly constrained if one is convicted of crime; and similarly, the right to confidentiality is also progressively diminished for those suspected, accused, or convicted of crime. These personal rights, however, while narrowed do not disappear. Prisoners retain some claim both to personal privacy and to autonomy—for example, rights to basic religious observances and to consent or refusal to participate in medical research projects.

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[28] Ibid.

[29] *Hudson* v. *Palmer,* 468 U.S. 517 (1984) [prisoners have [illegible] reasonable expectation of privacy in their cells and, hence, no protection by the Fourth Amendment against unreasonable searches]; *Block* v. *Rutherford, 468* U.S. 576 (1984) [Prisoners have no right to be present when authorities search their cells].

[30] Legislation Drafting Research Fund of Columbia University, *Constitutions of the United States: National and State (New* York, NY: Oceana Publishers, November 1985).

[31] *Olmstead* v. *United States,* 277 U.S. 438:1928.

[32] 381 U.S. 479.

TECHNOLOGICAL TRENDS

There are many indications that continuing trends in technology will stimulate continuing reexamination of the constitutional rights of those suspected, accused, or convicted of crime. Information technology, in particular, is permeating all phases of the administration of justice. As used in surveillance, it strongly supports law enforcement but involves risks of violation of the constitutional right to privacy. Sensing techniques-involving sight and photography, sound and tapping or taping, and a variety of biological sensors—are increasingly powerful, able to operate at great distances, miniaturized and easy to conceal, and otherwise undetectable to the subject. In the form of data aggregation, storage, and processing systems, information technology allows local jurisdictions to cooperate, decreasing their dependence on national law enforcement agencies. But it also creates records that are persistent and widely shared, and difficult for the subject to know about, to access, to verify, or to correct.

Emerging technologies based on molecular biology may reveal some of the causes of violent, aggressive, and antisocial behavior. They could also be used to manipulate or control behavior, and this would risk violations of individual autonomy. And they could provide information about people, thus risking invasions of privacy.

Social science-based techniques are increasingly used to predict, manipulate, and control behavior, and to guide and standardize decisions related to law enforcement and criminal justice. By depersonalizing the decisionmaking process they may attribute to individuals the characteristics of groups and in so doing may have the paradoxical effect of increasing the risk of violating equal protection of the law.

All of these technologies, and the scientific knowledge on which they are based, may affect the nature of evidence that is used in identifying offenders, and in helping juries determine their guilt or innocence. A knowledge of scientific principles and methodology may be necessary to fully understand the means by which this information was gathered, what it indicates, and the degree of certainty or uncertainty in this interpretation. Lay judges and juries may have difficulty in reaching this understanding. Knowing this, courts have often been slow to accept new kinds of technology-mediated information. This is a necessary safe guard; there must be very high reliability in presenting evidence to a jury. Experts have remained divided on the reliability of polygraphs, for example, and courts have not accepted such evidence.[33] The use of evidence based on advanced science and technology could also put some defendants (especially those who are indigent or not highly educated) at a relative disadvantage. At the same time, both law enforcement agencies and government prosecutors may be unnecessarily handicapped in identifying and prosecuting criminals, if courts are unnecessarily slow to accept scientifically sound evidence.

There are nontechnical reasons to examine carefully how technologies are used in criminal justice. Many new science-based technologies have similar effects which could degrade constitutional protections:

- They increase the ability of government to observe, control, or intervene in the affairs of an individual singly, rather than with large groups or the public as a whole; this could erode the effectiveness of constitutional restraints based on common law formulations.
- They allow investigation or surveillance at a distance, or out of sight of both the subject and concerned public interest groups; generally raising the level of surveillance and narrowing the expectation of privacy in society.
- By increasing the power of government to detect infractions and prosecute or pun-

[33] U.S. Congress, Office of Technology Assessment, *Scientific Validity of Polygraph Testing: A Research Review and Evaluation—Technical Memorandum* (Washington, DC: U.S. Government Printing Office, November 1983).

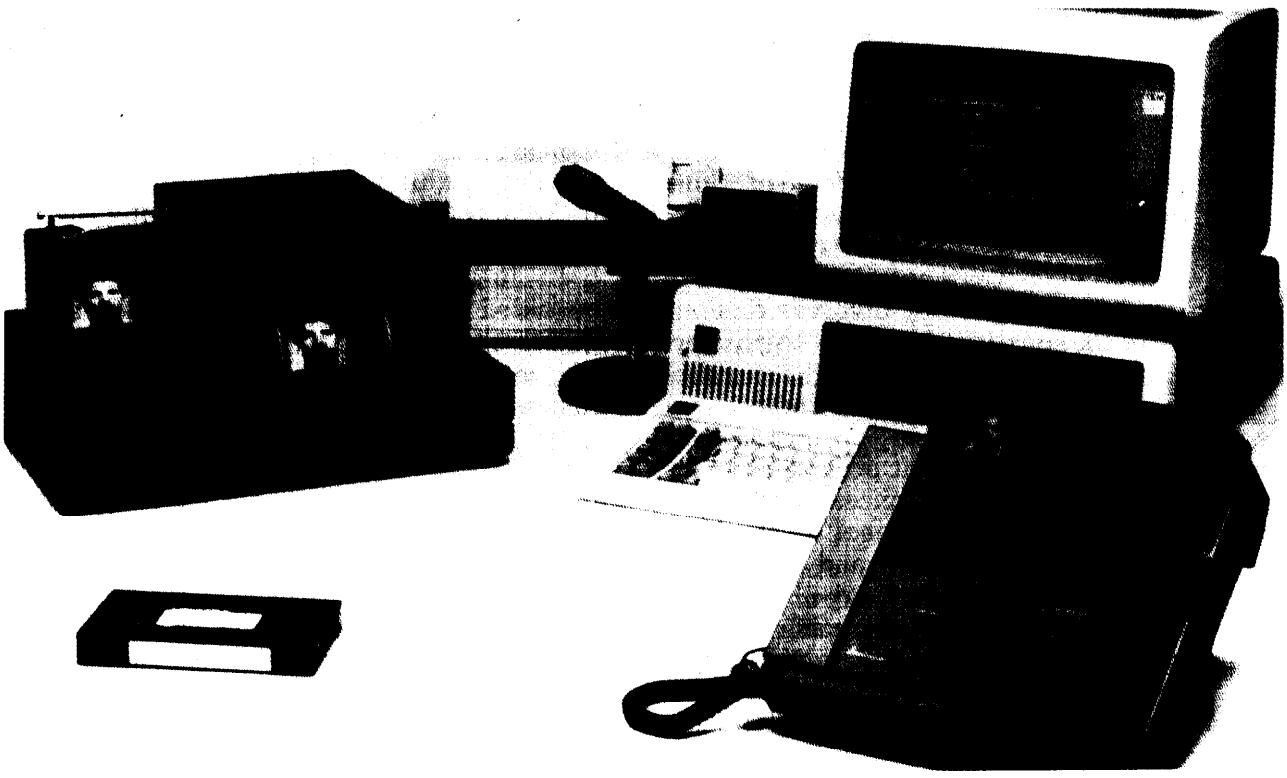

Photo credit: Luma Telecom Sales Division of Mitsubishi Electrlc Sales America, Inc.

Computer systems enable investigators to more quickly and accurately identify suspects.

ish minor infractions of law, they may either enhance the achievement of law and order, or widen the net of social control, or do both.

- While bringing greater expertise to bear on crime investigation and control, they also tend to move decisionmaking about guilt and about punishment from laymen (peers, citizens) to experts (the technical elite).
- Some suggest alternatives to traditional modes of correction or punishment, which in turn may create issues of equal treatment or equal protection of the laws.
- They may increase the disparity between rich and poor, highly educated and undereducated, in the ability to defend oneself in court or in the penalties that are visited on those found guilty.

While these characteristics give cause for caution, modem technology holds great promise for improving the enforcement of criminal laws and the administration of criminal justice, to the benefit of all Americans. With the aid of electronic surveillance, Automated Fingerprint Identification Systems, mobile digital computers, and expert systems, for example, police can make more arrests and apprehend more serious offenders. Similarly, technological advancements and new methodologies can, if wisely used, enable prosecutors, courts, and corrections officials to concentrate their often limited resources on violent and repeat offenders. Innovations in decisionmaking, such as development of criteria and guidelines, improve the consistency of the criminal justice process. The benefits of these technologies are well-established and apparent, in spite of some potential for abuses.