Criminal Justice in America

in America

EIGHTH EDITION

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14 | Technology and Criminal Justice

- The April 2013 bombing at the Boston Marathon killed three people and wounded 170 others. In the immediate aftermath, the police had no real suspects. Technology served as the crucial element in solving this important case affecting homeland security.

- Technology increases the effectiveness of criminal justice officials, but some argue that it also collides with the constitutional rights of citizens. What do you think is more important?

LEARNING OBJECTIVES

- LO1 – Describe how adaptation and belief in science can affect the use of technology

- LO2 – identify the various aspects of cyber crime and counterfeiting.

- LO3 – explain the role of communications, computers, and databases in policing.

- LO4 – Describe developments and problems in DNA testing and new weapons technologies.

- LO5 – name the uses of technology in courts and corrections.

- LO6 – list some continuing questions about the effects of technology on civil liberties.

TECHNOLOGICAL DEVELOPMENT AND CRIMINAL JUSTICE

- New developments in technology that benefit one side in the competition (officers and criminals) will lead to adjustments and adaptations by the other

- Pressure to find new and better devices to combat crime can lead to excessive faith in the effectiveness of technology without taking into account the consequences

COMPETITION AND ADAPTATION

- New opportunities for crime, such as Internet crimes, etc.
  - New forms of criminality, such as Internet scams
    - New techniques for committing crimes, such as computer software programs, the use of tasers as weapons in robberies, etc.
      - New categories of offenders and victims, such as online predators and identity theft victims.

SCIENCE AND PROGRESS

- Electric chair was first used in New York in 1890 as a Technological advancement that would create a more humane death for condemned prisoners
  - By 2008 most death penalty states had outlawed its use as violated the Eighth Amendment's protection against "cruel and unusual punishment
  - In place of the electric chair most states now utilize yet another recent advancement:
    - Lethal injection

CRIME AND TECHNOLOGY: CYBER CRIME

- Cyber crimes involve the use of computers and the Internet to commit acts against people, property, public order, or morality
  - Cyber criminals use computers to steal information, resources, or funds
  - They may also take over innocent victims' computers and issue remote commands to those computer to assist in crimes, such as the dissemination of child pornography

CRIME AND TECHNOLOGY: CYBER CRIME

- In 2014, Target revealed that hackers had obtained credit and debit card information on as many as 70 million of the stores' customers, putting those individuals at risk of identity theft.

- Is it possible to protect yourself from identity theft in today's technological climate?

IDENTITY THEFT

- Defined as the theft of social security numbers, credit card numbers, and other information in order to secure loans, withdraw bank funds, and purchase merchandise while posing as someone else: the unsuspecting victim who will eventually lose money in these transactions.
  - Law enforcement has only a limited role
  - Critical is the self awareness and protective acts by the public

IDENTITY THEFT

TABLE 14.1 Type of Identity Theft Experienced by Households and Total Financial Loss Attributed to Each Type of Identity Theft in 2012

Types of Identity Theft	Number of Victimizations	Percent of Victimizations	Average Total Out-of-Pocket Loss
All types	16.6 million	100%	$4,804
Existing credit card	6.7 million	40%	$1,991
Existing bank account	6.2 million	37%	$1,444
Other existing account	1.15 million	7%	$1,264
Personal information	622,900	3%	$34,352
New account	683,400	4%	$863
Multiple types	1.25 million	8%	$9,001

Source: E. Harrell and L. Langton, "Victims of Identity Theft, 2012," *Bureau of Justice Statistics Bulletin*, December 2013, p. 19.

COMPUTER BASED CRIME

- FBI's National Computer Crime Squad priorities in computer crime:
  - Public Switch Networks (Phone)
  - Major computer networks
  - Network integrity
  - Privacy violations
  - Industrial espionage
  - Pirated software

COMPUTER BASED CRIME

- Should computer science courses become a required component of every college criminal justice program?

INTERNATIONAL CYBER CRIME

- Efforts to create and enforce effective laws are hampered by the international nature of cyber crime

- Not all countries are equally committed or capable

- FBI utilizes Cyber Action Teams (CATS) to address large scale and damaging cyber crimes
  - Small, highly trained agents, analysts, and computer forensics experts who travel the world to respond to cyber intrusions

COUNTERFEITING

- Continued improvements in computer and printing technology permitted counterfeiters to produce fake currency of better and better quality
  - Pirated American movies, music, and computer software produced in China alone cost legitimate businesses more than $2 billion in sales each year
  - Technological advancements produced a sharp increase in counterfeit medications in the past decade

COUNTERFEITING

- Criminals in Florida copied the packaging of a drug Procrit, used to treat people with cancer and AIDS. They diluted the dosage in some bottles, and filled others with water. Procrit sells for $500 per dosage bottle, and the criminals gained $46 million before caught.

- If you were the director of the FDA, what steps would you recommend to diminish the likelihood that counterfeit drugs would reach patients?

POLICING AND NEW TECHNOLOGY IN THE 20TH CENTURY

- Automobiles

- Radios

- Bulletproof vests

- Fingerprint, blood, fiber analysis

- Polygraph

- DNA

COMMUNICATION

- Traditionally 911 has allowed instantaneous tracking and response
  - Now cities are struggling with cell phones which often can only provide general locations

COMPUTER TECHNOLOGY

- Police can now directly access various databases, such as traffic and DWI arrests, for suspects
  - This has lead to increased efficiency in dealing with suspects and the general public
    - This technology is expensive to deploy and requires training
    - By 2007, more than 90% of departments in cities with populations of 25,000 or more had in-vehicle computers

NEW SYSTEMS AND DATABASES

- Geographical Information Systems (GIS) allow the police to map problem locations in order to understand calls for service and the nature and frequency of crimes and other issues within specific neighborhoods.

NEW SYSTEMS AND DATABASES

- Improved speed and size of fingerprint databases
- Latent Prints
  - Fingerprints left behind on objects after contact
  - Residue of natural skin secretions or contaminating materials such as ink, blood, or dirt that were present on the fingertips at the time of their contact with the objects

FINGERPRINT IDENTIFICATION SYSTEM (IAFIS)

- Enables police to send fingerprints electronically and then have those prints matched against the millions of prints in the database
  - The FBI can provide electronic images of individuals' fingerprints to local law enforcement agencies upon request

DHS FINGERPRINT DATABASE

- Department of Homeland Security developed database
  - Post 9/11 rules require the collection of fingerprints from every non-citizen entering the U.S.
  - Database has more than 64 million prints which can be linked to the FBI database containing an additional 40 million sets

DNA ANALYSIS

- Scientific technique that identifies people through their distinctive gene patterns
  - DNA is the basic component of all chromosomes
  - Many states and the federal government are building a national database of DNA records that is maintained by the FBI
  - CODIS, (Combined DNA Index System)
    - The project began in 1990 as a pilot project serving a few state and local laboratories
    - CODIS has now grown to include 137 laboratories in 47 states and the District of Columbia

CRIME LABS

TABLE 14.2 Percentage of Labs Performing Each Function, by Jurisdiction Type

Forensic Function	Total[a]	State	County	Municipal
Controlled substances	82%	86%	85%	75%
Firearms/toolmarks	55	55	63	62
Biology screening/DNA	59	64	66	49
Latent prints	60	54	63	78
Trace evidence	50	50	55	44
Toxicology	42	50	43	35
Impressions	44	44	53	43
Crime scene	52	44	62	71
Questioned documents	16	13	13	24
Digital/computer evidence	19	10	21	32
Number of labs reporting	397	211	88	63

[a]Includes federal labs, not shown separately.

Source: M. R. Durose, K. A. Walsh, and A. M. Burch, "Census of Publicly Funded Forensic Crime Laboratories, 2009," *Bureau of Justice Statistics Bulletin,* August 2012, p. 2.

ISSUES AND PROBLEMS WITH DNA DATABASES

- Due to backlogs, it can take years to actually run DNA tests
  - Issues remain about how to ethically gather large DNA databases
  - It would cost $70 million and require 1,900 new technicians to clear the current backlog
    - National standards need to be set to insure work meets exacting scientific standards

DNA AND ETHICAL CONCERNS

- In 2002 in Truro, Massachusetts a women was raped and killed, the suspect left DNA at the scene. Police sought to get all 790 male residents to provide DNA; those that didn't became 'suspects.'

  - Are such methods ethical?
  - What issues are at stake here?

DNA AND WRONGFUL CONVICTIONS

- While **DNA** is an investigative tool for law enforcement, it can also be used to correct grave errors
  - As of June 2014, there have been 316 post-conviction DNA exonerations

DNA AND THE SUPREME COURT

- District Attorney's Office v. Osbourne (2009)
  - The court found no constitutional right to have DNA tested

- Melendez-Diaz v. Massachusetts (2009)
  - Mandated the DNA technicians must be available for cross examination.
  - What new issues do you think will arise in the future with DNA?
  - Do you think a persons DNA is their property?
  - Should you need a warrant to get it?

SURVEILLANCE AND IDENTIFICATION

- Increased use of surveillance cameras at intersections
- Use of personal body cameras
- Scanners that help officers detect whether weapons, drugs, or bombs
- Supreme Court does not always favor new technology
  - Kyllo v. United States (2001) – officers cannot examine a home with thermal imaging

- Weapons such as pepper spray and air-fired beanbags or nets meant to incapacitate a subject without inflicting serious injuries

- Conducted-energy devices (CEDs) – Tasers

AP Images/The News-Item, Mike Staugaitis

- Electronic File management
  - Computerization of records; done to reduce reliance on paper documents and to make them more accessible
- Deployment of technology to jurors and judges
  - Computer screens
  - Hearing assistance
  - Color Printers

Don Hogan Charles/The New York Times/Redux Pictures

NEGATIVE USE OF TECHNOLOGY BY JURORS

- iPhones and BlackBerrys enable disobedient jurors to do their own research on a case during breaks
  - Jurors have used blogs and Twitter to post announcements about the progress of a case or about jury deliberations
  - There is evidence that some jurors even send out messages by cellphone during breaks in the trial

THE CSI EFFECT

- Widely discussed but unproved belief that television dramas revolving around forensic science raise jurors' expectations about the use of scientific evidence in criminal cases and thereby reduce the likelihood of "guilty" verdicts in trials that rely solely on witness testimony and other forms of nonscientific evidence.

TECHNOLOGY AND CORRECTIONS

- Offender Tracking Information Systems (OTIS) are accessible databases that permit crime victims to keep track of when specific offenders gain release on parole
  - They can also help employers to do background checks on job applicants.
  - Separate public access information systems often provide specific information on the residences of convicted sex offenders

TECHNOLOGY AND CORRECTIONS

- In correctional institutions technology enhances safety and security through use of
  - Electronically controlled cell doors and lock
  - Motion sensors
  - Surveillance cameras
  - Small radios attached to shirts of corrections officers
  - Body armor for corrections officers

CORRECTIONS TECHNOLOGY IN THE COMMUNITY

- Offenders in home confinement wear electronic devices that help to monitor whether they obey curfews, remain at home, or otherwise fulfill restrictions about where they are permitted to be

- Use of monitors with **GPS** capability track the movements of criminal stalkers and perpetrators of domestic violence

QUESTIONS AND CHALLENGES

- Technological developments produce risks, questions, and consequences beyond increased efficiency in carrying out tasks
  - Technological devices are operated by humans who can make errors
  - Perceptions that new weapons will not cause serious injury or death officers may use them rather than resolve issues with verbal communication