Police Technology
From Body Cameras to Facial Recognition

A talk with I. Bennett Capers

I. Contextualizing the Call for New Policing Technologies

A. High publicity of police brutality and the Black Lives Matter movement have brought police accountability – and the technologies used to that end – back into the American consciousness. Several notable incidents that were filmed were:
   1. Eric Garner
      a. Killed in a confrontation with Staten Island police on July 17, 2014.
      b. Witness video shows Garner being held in a chokehold and exclaiming that he could not breathe. He was unarmed.
      c. Officer Daniel Pantaleo was charged in connection with the case, but the grand jury declined to indict him.
   2. Walter Lamer Scott
      a. Killed in a confrontation with Charlotte, South Carolina police on April 4, 2015.
      b. Witness video shows Scott being shot in the back by officer Michael Slager as he runs away from a traffic stop. He was unarmed.
      c. Slager was indicted by a grand jury on murder charges.
   3. Samuel DuBose
      a. Killed in a confrontation with Cincinnati, Ohio police on July 19, 2015.
      b. Bodycam footage of the incident is available. DuBose was killed after attempting to drive away from a routine traffic stop.
      c. A grand jury indicted officer Ray Tensing on murder and voluntary manslaughter charges.
   4. Columbia, South Carolina
      a. In October 2015, footage surfaced of a black high school girl being dragged from her desk and slammed onto the classroom floor by a white police officer.
      b. The girl, who had refused to get up from her desk, was charged with a misdemeanor under South Carolina's "Disturbing Schools Law."
      c. The officer was placed on administrative leave.

B. The New York City Police Department operated for years a controversial "stop and frisk" program which the courts found to have constituted unconstitutional racial profiling.[1]

[1] *Stop-and-Frisk Campaign: About the Issue*, AMERICAN CIVIL LIBERTIES UNION,

1. Of the 4.4 million stops between January 2004 and June 2012 the NYPD conducted, 6% resulted in arrests and 6 percent in summonses. In about 83% of stops, the person stopped was black or Hispanic.[2]
2. *Floyd v. City of New York* (2013) deemed the program's use of racial profiling unconstitutional, but stop-and-frisk itself is not an unconstitutional police practice.

II. New Policing Technologies

A. Body-worn cameras
   1. Use of body cams may promote transparency and aid criminal investigations.
      a. Various studies have shown that body cams change how the police interact with the public.
   2. Is not without its challenges:
      a. How to ensure that officers are recording everything they are supposed to.
      b. Privacy concerns over how the video is used, stored, and shared.
      c. The challenge is how to balance these two interests of privacy and benefit to policing.
   3. More police departments increasingly employ body cams, but there is no uniform policy in the way the body cams and its footage are used.
      a. Police departments have no obligation to release footage to the public, although some may choose to do so on a case-by-case basis.
      b. Different departments employ different procedures regarding when to turn on body cams – some require police to keep body cams on at all times, on during certain types or stops, or leave it up to the discretion of the officer.
   4. The NYPD allows some officer discretion but require recording during vehicle stops, patrols inside public housing buildings, and other certain situations.
      a. As part of the accountability measures enumerated in *Floyd v. City of New York*, Judge Shira Scheindlin ordered the NYPD to use body-worn cameras.[3] The NYPD had already begun a limited body-worn camera pilot program prior to this ruling.

B. Surveillance cameras
   1. In most major cities, there are already massive networks of public and private surveillance and security cameras.
      a. In the U.K., there are an estimated 5.9 million CCTV cameras.

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[2] The Editorial Board, *Racial Discrimination in Stop-and-Frisk*, THE NEW YORK TIMES, Aug. 12, 2013, http://www.nytimes.com/2013/08/13/opinion/racial-discrimination-in-stop-and-frisk.html.
[3] Marc Santora, *Order That Police Wear Cameras Stirs Unexpected Reactions*, THE NEW YORK TIMES, Aug. 13, 2013, http://www.nytimes.com/2013/08/14/nyregion/order-that-police-wear-cameras-stirs-unexpected-reactions.html.

2. Certain communities may be subject to more surveillance than others. This may be determined based on crime rate, but this may also disproportionately target certain racial groups to increased surveillance (i.e. in public housing).

C. Facial recognition software
   1. Can be used to scan crowds for known criminals or associates of known criminals (for example, using security cameras to scan faces at the Super Bowl).
   2. Current CCTV analysis techniques rely on specially installed cameras to make facial recognition possible. However, the next wave of facial recognition software will allow person tracking via standard CCTV cameras.
   3. Advanced facial recognition software combined with CCTV can be used to scan thousands of images for real-time comparison against a criminal database.
      a. For example, the FBI Next Generation Identification System is a massive searchable biometric database that is expected to house more than 50 million photographs.
      b. Police agencies can submit post-arrest mug shot, video feed from a security surveillance system, photos from background checks, etc. to add to the system.
      c. Facial recognition software can compare the CCTV footage with the biometric database.

D. Big data[4]
   1. Police departments hold mountains of digital evidence, which raises several issues of privacy and security, not only in its collection but storage.
      a. Many departments are grappling with issues of information overload: how to store and how to sift through the data to pull useful information.
      b. Police departments, like the LAPD, have begun to use the data to analyze and understand why certain crimes are occurring in certain pockets of neighborhoods.
   2. In a 2014 report for the White House, policy recommendations were made towards advancing the benefits of big data while also strengthening protections for collected data[5]

E. Drones
   1. Drone equipped with cameras may be used for aerial surveillance.
      a. E.g. MAV is a flyable video camera that can hover and fly in any direction and is operated via a computer. It can be used in hostage or barricaded suspect situations.
      b. Is a cheaper alternative to police helicopters.

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[4] *Big Data and the Future of Privacy*, EPIC, https://epic.org/privacy/big-data/.
[5] John Podesta et al., *Big Data: Seizing Opportunities, Preserving Values* (Executive Office of the President of the United States of America), May 1, 2014.

2. Like all policing technologies, the costs to privacy must be weighed against the benefits. The ACLU contends that regulation is necessary in order to deter and prevent privacy abuses.[6] The ACLU argues that the devices could allow the police to improperly surveil the public.

F. Terahertz scanners
   1. Terahertz scanners reveal firearms through clothing. Terahertz scanners pick up a form of radiation that the human body naturally emits that can pass through clothing but not metal.
   2. The 4th Amendment implications of this technology includes whether it's akin to searching a person's home with a thermal imaging device, which requires a search warrant.

III. Selected Privacy and Technology Case Law

A. *Terry v. Ohio* (1968)
   1. Followed *Mapp v. Ohio* (1961), which ruled that evidence from unreasonable searches and seizures was inadmissible in court. *Terry* opened the door for contemporary search / seizure cases.
   2. Established the legal validity of the so-called "*Terry* stop", in which an officer only needs "reasonable suspicion", not probable cause, to conduct a search
      a. During the course of a search based on reasonable suspicion, an officer may develop enough probable cause to lead to an arrest
   3. How might this be different with modern technologies like facial recognition or terahertz scanners?
      a. Prof. Capers: Modern technology may lead to more accurate and egalitarian policing, and fewer stops, by being able to identify likely suspect individuals without a stop.

B. The reasonable suspicion standard and legitimate circumstances for a stop / search have continued to be addressed by the Supreme Court and others:[7]
   1. *United States v. Knotts*, 460 U.S. 276 (1983): A person traveling in public has no expectation of privacy in one's movements.
   2. *California v. Ciraolo*, 476 U.S. 207 (1986): Warrantless aerial observation of a person's backyard does not violate the Fourth Amendment.
   3. *Florida v. Riley*, 488 U.S. 445 (1989): Police do not need a warrant to observe an individual's property from public airspace.
   4. *Whren v. United States*, 517 US 806 (1996): Any traffic offense committed by a driver is a legitimate legal basis for a stop (pretextual stops are permissible).

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[6] *Police Hunger for Drones May be Growing, but So Are Privacy Concerns*, AMERICAN CIVIL LIBERTIES UNION, https://www.aclu.org/blog/police-hunger-drones-may-be-growing-so-are-privacy-concerns.

5. *Arizona v. Johnson*, 555 U.S. 323 (2009): Police may pat down an automobile passenger if they have reasonable suspicion that the individual is armed and dangerous.
6. *Floyd v. City of New York*, 959 F. Supp. 2d 540 (2013): Invalidated the use of racial profiling in New York City's stop and frisk program; the program itself is permissible.
7. *Heien v. North Carolina*, 135 S. Ct. 530 (2014): Reasonable mistake of law as the pretext for an automobile stop is nevertheless permissible as such a stop may provide the individualized suspicion necessary to justify the stop.

I. Prognosis and Predictions

A. Technology can be used to benefit both civilians and police officers:
   1. Improved training for police officers and increased incentives for good behavior.
   2. Footage of an incident gives a better though not perfect idea of what happened.
   3. Technology can be used as a tool to help reduce mass incarceration
B. Automated suspicion algorithms / machine learning
   1. Computers do the monitoring and send alerts to the appropriate authorities
   2. Preferential treatment might result, at least initially, but an overall smaller number of stop and frisks is a net benefit. Technologies can be improved and refined to increase effectiveness and minimize harms.