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Drones and *Jones*: The Fourth Amendment and Police Discretion in the Digital Age

Andrew B. Talai*

*Law enforcement agencies have begun deploying drones for routine domestic surveillance operations, unrestrained by constitutional scrutiny. Indeed, Congress has mandated a comprehensive integration of unmanned aerial systems into the national airspace no later than September 30, 2015. But does the Fourth Amendment to the United States Constitution proscribe such drone surveillance as an unreasonable search? While this question cannot be easily answered under conventional precedents, doctrinal inconsistency raises this Comment's central question: What role will the Fourth Amendment play in an age of pervasive digital surveillance and limited privacy rights? In the last few decades, the Supreme Court has narrowed its vision of Fourth Amendment rights to an opaque privacy rationale. The Court has muddled doctrine and strained to avoid difficult issues involving technological progress. A recent example of this phenomenon came in the 2012 decision, *United States v. Jones*, where the Court paradoxically revived the common law trespass test for Fourth Amendment searches, as a proxy for the "degree of privacy that existed" at the founding.*

This Comment argues, instead, for a "pluralist" approach to understanding Fourth Amendment searches that would—in addition to securing privacy and property—proscribe any search that

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disproportionately impinges on personal liberty. It offers a factual foundation based on an actual account of law enforcement drone surveillance and explores a recently obscured anxiety that drone surveillance fosters in a free society—unfettered police discretion. This Comment also describes the tension between drone surveillance technology and existing Fourth Amendment jurisprudence, revealing shortcomings in the current search inquiries: the trespass test, the reasonable expectation of privacy test, and the mosaic theory. The Court’s narrow understanding of Fourth Amendment rights excludes relevant considerations of personal liberty and gives short shrift to abusive governmental practices in public, not because they are normatively unworthy, but because the Court is unduly focused on “privacy.”

This Comment also suggests a more comprehensive understanding of a Fourth Amendment search. The Fourth Amendment should be conceptualized as securing interests in (at least) privacy, property, and personal liberty. In so arguing, this Comment builds upon the work of Tracey Maclin, using recent scholarship on panopticism to gesture toward a structure that balances the desirability of drone surveillance against the threat of abuse by proscribing searches that unduly restrict freedom of movement through surveillance.

Introduction	731
I. Domestic Drone Surveillance: A Problem of Police Discretion	736
A. The Problem with Domestic Drone Surveillance	737
1. The Catalyst: <i>State v. Brossart</i>	737
2. Abuse of Police Discretion.....	739
B. Drone Surveillance Capabilities.....	744
1. The Predator and the ARGUS Imaging System	744
2. Distinguishing Drones: Perfecting the Art of Surveillance	746
II. Drones and Fourth Amendment Privacy: An Account of Doctrinal Shortcomings	751
A. Search Inquiry Post- <i>Jones</i>	751
1. The <i>Olmstead</i> and <i>Jones</i> Trespass Test	752
2. The <i>Katz</i> Reasonable Expectation of Privacy Test.....	753
3. The <i>Maynard</i> and <i>Jones</i> Mosaic Theory	757
B. Shortcomings: From Trespass to Aggregation	760
1. Trespass and Drones.....	761
2. Reasonable Expectation of Privacy and Drones	762
3. Mosaic Theory and Drones	765
III. The Fourth Amendment: A Forgotten Source of Personal Liberty.....	766
A. Maclin’s Right of Locomotion	769

B. The Right of Locomotion and the Psychology of Drone	
Surveillance	771
1. Bridging the Gap: From Seizure to Systemic Searches.....	772
2. The Digital Panoptic Sort: Unfettered Drone Surveillance	
and Discriminatory Social Sorting.....	775
Conclusion: Rethinking the Mosaic Theory of the Fourth Amendment	778

INTRODUCTION

*“The Fourth Amendment today is an embarrassment.”*¹

Law enforcement agencies are currently deploying drones² for surveillance operations in the United States, unrestrained by any constitutionally mandated warrant requirements.³ North Dakota farmer Rodney Brossart was reportedly the first American arrested domestically with the assistance of Predator drone surveillance.⁴ While lethal drone strikes on the front lines of combat usually garner prime-time attention,⁵ the national media has recently shifted coverage to the surveillance controversy at home.⁶ Indeed,

1. Akhil Reed Amar, *Fourth Amendment First Principles*, 107 HARV. L. REV. 757, 757 (1994).

2. This Comment refers to Unmanned Aerial Vehicles (UAV) and Unmanned Aerial Systems (UAS) informally as drones, for the sake of uniformity, despite the tremendous differentiation in drone technology. For basic background information on drones, see generally JEREMIAH GERTLER, CONG. RESEARCH SERV., R42136, U.S. UNMANNED AERIAL SYSTEMS (2012) (detailing different models and capabilities).

3. The U.S. Department of Homeland Security (DHS) has been policing the border with drones for years now. See RICHARD M. THOMPSON II, CONG. RESEARCH SERV., R42701, DRONES IN DOMESTIC SURVEILLANCE OPERATIONS: FOURTH AMENDMENT IMPLICATIONS AND LEGISLATIVE RESPONSES 3 (2013); Andrew Becker, *Border Agency Looks to Expand Drone Fleet*, CAL. WATCH (Nov. 19, 2012), <http://californiawatch.org/dailyreport/border-agency-looks-expand-drone-fleet-18678>. This Comment focuses on the relatively recent phenomenon of local law enforcement operations, which do not implicate the permissive “border search doctrine.” See, e.g., *United States v. Montoya de Hernandez*, 473 U.S. 531, 538 (1985) (“Routine [border] searches of the persons and effects of entrants are not subject to any requirement of reasonable suspicion, probable cause, or warrant . . .”).

4. See Jason Koebler, *First Man Arrested with Drone Evidence Vows to Fight Case*, U.S. NEWS & WORLD REP. (Apr. 9, 2012), <http://www.usnews.com/news/articles/2012/04/09/first-man-arrested-with-drone-evidence-vows-to-fight-case>. For another reported domestic target, see Eric Limer, *Report: Ex-Cop Christopher Dorner Is Now a Target for Drones*, GIZMODO (Feb. 10, 2013, 1:54 PM), <http://gizmodo.com/5983175/report-ex-cop-christopher-dorner-is-now-a-target-for-drones>.

5. See *US Drone Strikes: Memo Reveals Case for Killing Americans*, BBC NEWS (Feb. 5, 2013), <http://www.bbc.co.uk/news/world-21333570> (reporting on a U.S. Department of Justice memo setting forth a “legal framework” for the use of lethal drone strikes against U.S. citizens in foreign countries).

6. See, e.g., Martin Kaste, *As Police Drones Take Off, Washington State Pushes Back*, NPR NEWS (Feb. 22, 2013, 5:46PM), <http://www.npr.org/2013/02/22/172696814/as-police-drones-take-off-washington-state-pushes-back>; Kevin O’Hanlon, *Police Drone Use Targeted by Nebraska Bill*, FREMONT TRIB. (Jan. 25, 2013, 9:00 AM), http://fremonttribune.com/news/local/police-drone-use-targeted-by-nebraska-bill/article_c3ad98f9-becc-5a0d-b7db-6091b3f6070c.html; Todd Woody, *Drone Wars: Berkeley Considers Ban on Robotic Aircraft*, FORBES (Dec. 21, 2012, 12:09 PM), <http://www.forbes.com/sites/toddwoody/2012/12/21/drone-wars-come-home-as-berkeley-considers-ban-on-robotic-aircraft>.

civil drone surveillance is burgeoning; Congress has mandated a comprehensive integration of unmanned aerial systems (UAS) by the Federal Aviation Administration (FAA) into the national airspace no later than September 30, 2015.⁷

The legal debate has naturally focused on the Fourth Amendment to the U.S. Constitution:⁸ Is civil drone surveillance a “search” under the Fourth Amendment? The U.S. Supreme Court’s current precedents do not provide a clear answer.⁹ Under conventional precedents, certain types of drone surveillance might amount to a search, and others might not.¹⁰ Any attempt to discern a definitive prediction is necessarily speculative at best. However, this inconsistency raises a more critical question: What role will the Fourth Amendment play in an age of limited privacy rights and pervasive digital surveillance?

This Comment suggests that drone surveillance can advance the way we think about the Fourth Amendment. A legal challenge to domestic law enforcement drone operations could give a majority of the Supreme Court the

7. See FAA Modernization and Reform Act of 2012, Pub. L. No. 112-95, § 332(a)(1)–(3), 126 Stat. 11, 73 (“[T]he Secretary of Transportation . . . shall develop a comprehensive plan to safely accelerate the integration of civil unmanned aircraft systems into the national airspace system . . . not later than September 30, 2015.”).

8. U.S. CONST. amend. IV (“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 or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.”).

9. See *Kyllo v. United States*, 533 U.S. 27, 40 (2001) (holding that a search occurred when the police used a thermal imager, not in general public use, to “explore details of the home that would previously have been unknowable without physical intrusion”). *But see Florida v. Riley*, 488 U.S. 445 (1989) (holding that the Fourth Amendment was not implicated when police flew in a helicopter four hundred feet above the defendant’s partially covered greenhouse, located next to his mobile home, and made naked-eye observations of marijuana plants inside, because a member of the public could similarly position himself in an aircraft and make the same observations); *Dow Chem. Co. v. United States*, 476 U.S. 227 (1986) (holding that no search occurred where a surveillance camera was used to observe the open areas of an industrial facility); *California v. Ciraolo*, 476 U.S. 207, 215 (1986) (holding that naked-eye observations of a fenced-in backyard within the home’s curtilage from an aircraft at one thousand feet did not constitute a search because “[i]n an age where private and commercial flight in the public airways is routine, it is unreasonable for respondent to expect that his marijuana plants were constitutionally protected from [such observation]”).

10. It seems that drone surveillance could be upheld under the “flyover cases” but struck down under the “high technology cases.” Where the Court will eventually come down is mere speculation. See, e.g., Joseph J. Vacek, *Big Brother Will Soon Be Watching—Or Will He? Constitutional, Regulatory, and Operational Issues Surrounding the Use of Unmanned Aerial Vehicles in Law Enforcement*, 85 N.D. L. REV. 673 (2009) (arguing that current use of UAS technologies does not appear to run afoul of the Fourth Amendment); Paul McBride, Comment, *Beyond Orwell: The Application of Unmanned Aircraft Systems in Domestic Surveillance Operations*, 74 J. AIR L. & COM. 627 (2009) (arguing that the surveillance of the curtilage of the home using UAS platforms is a search under the Fourth Amendment); Troy Roberts, Comment, *On the Radar: Government Unmanned Aerial Vehicles and Their Effect on Public Privacy Interests from Fourth Amendment Jurisprudence and Legislative Policy Perspectives*, 49 JURIMETRICS J. 491 (2009) (arguing that the Fourth Amendment will only provide minimal protections, leaving the primary responsibility to legislative responses).

opportunity to embrace a Fourth Amendment value that has been too long obscured in search jurisprudence¹¹—personal liberty.

In the last few decades, the Supreme Court has often fixated on creating formalistic rules, gradually obscuring the ability to “generalize from . . . the underlying evils against which the Fourth Amendment [takes] aim.”¹² The consummate example of this jurisprudential phenomenon came in the 2012 decision, *United States v. Jones*.¹³ In that case, when faced with pervasive GPS surveillance on public roads, a majority of the Court opted to revive the common-law trespass test for searches, rather than reevaluate existing doctrine in light of technological progress. In an age where widespread public drone surveillance seems imminent and technological progress is marching forward, the Supreme Court appears to be moving backwards by focusing on the “degree of *privacy* against government intrusion that existed when the Fourth Amendment was adopted.”¹⁴ The result is a splintered area of the law, with (arguably) three coexisting “search” inquiries—the trespass test, the reasonable expectation of privacy test, and the mosaic theory—each with different doctrinal applications.¹⁵ This Comment makes the case for rethinking Fourth

11. See M. Ryan Calo, *The Drone as Privacy Catalyst*, 64 STAN. L. REV. ONLINE 29, 30 (2011), http://www.stanfordlawreview.org/sites/default/files/online/articles/64-SLRO-29_1.pdf. Calo urged that the specter of drone surveillance may “dramatize the need to rethink the very nature of privacy law,” as a striking parallel to the privacy movement described in Samuel D. Warren & Louis D. Brandeis, *The Right to Privacy*, 4 HARV. L. REV. 193 (1890), at the turn of the twentieth century. *Id.* Calo’s first step, while thought provoking, does not satisfactorily explain why drone surveillance is so troubling, nor does it posit a solution. This Comment attempts to fill that void in the scholarship.

12. See David A. Sklansky, *The Fourth Amendment and Common Law*, 100 COLUM. L. REV. 1739, 1740, 1744 (2000) [hereinafter Sklansky, *Fourth Amendment*] (critiquing Justice Scalia’s “new Fourth Amendment originalism” approach to the common law and generally applauding the approach taken in *Boyd v. United States*, 116 U.S. 616 (1886) and *Olmstead v. United States*, 277 U.S. 438 (1928) (Brandeis, J., dissenting), which drew “broad lessons from the eighteenth-century controversies”); see also David A. Sklansky, *Back to the Future: Kyllo, Katz, and Common Law*, 72 MISS. L.J. 143, 178–88 (2002) [hereinafter Sklansky, *Back to the Future*] (generally applauding Justice Scalia’s temporary, if not responsive, use of common law rules in *Kyllo*).

13. 132 S. Ct. 945 (2012). For those unfamiliar with the case, a quick summary will suffice at this point. In *Jones*, the respondent Antoine Jones was suspected of trafficking in narcotics. A joint FBI and D.C. Metropolitan Police task force secured a warrant to track Jones’s car with a Global Positioning System (GPS) device. However, the officers botched the installation of the GPS transmitter by failing to install it within the District of Columbia. Still, they attached the device to the car’s undercarriage in Maryland and continued to collect data. The government continuously tracked Jones’s movements in the vehicle for four weeks, producing over 2,000 pages of data. As a result, officers were able to gather enough evidence to link Jones to the narcotics distribution ring and convict him at trial. The U.S. Court of Appeals for the District of Columbia Circuit reversed, holding that the warrantless use of the GPS device constituted a search within the meaning of the Fourth Amendment. Thus, it was per se unreasonable and the evidence should have been excluded at trial. The Supreme Court granted certiorari and affirmed unanimously—albeit for starkly different reasons. *Id.* at 947–50.

14. See *id.* at 950 (emphasis added).

15. See *infra* Part II (trespass theory, reasonable expectation of privacy test, and mosaic theory). See generally Amar, *supra* note 1, at 757–58 (“[I]n fact, today’s Supreme Court does not really support [the pillars of Fourth Amendment case law]. Except when it does. Warrants are not required—unless they are. All searches and seizures must be grounded in probable cause—but not on

Amendment protections—that is, arguing for a more comprehensive framework—and builds upon the work of Professor Tracey Maclin, who has contended that the Fourth Amendment embodies more than just a right to privacy.¹⁶ This Comment argues for a “pluralist”¹⁷ theory of the Fourth Amendment that would balance all relevant factors. Such a theory would proscribe any search that disproportionately constitutes an abuse of police discretion, like unduly restricting freedom of movement through surveillance.

This Comment proceeds in three Parts. Part I grounds the argument in previously unexplored examples, analyzing *State v. Brossart*,¹⁸ an actual account of law enforcement drone surveillance. This background fleshes out an under-attended anxiety that drone surveillance can create in a free society. Fears of drone surveillance have often been relegated to the land of fantasy and irrationality as an Orwellian trope. Many on the Left and Right consider intimate privacy to be the only concern—the ever-present eyes of Big Brother looking into our homes. Without dismissing these privacy concerns, the point is to focus on a more realistic problem: abuse of government discretion. Thus, this Comment argues that digital surveillance technology implicates a “central meaning” of the Fourth Amendment—“distrust of police power and discretion.”¹⁹ Part I then describes the current and imminent capabilities of drone technology from the standard Predator to the state-of-the-art Autonomous Real-Time Ground Ubiquitous Surveillance (ARGUS).²⁰ This background provides a framework for considering what makes a drone qualitatively stand apart from GPS, optical satellites, and cell-site pinging, and for understanding why drone surveillance seems intuitively “creepy and un-American.”²¹ Again, this Comment argues that the unease with drone surveillance can partly be explained by a deep-seated American fear of governmental abuse. The drone, designed to (what this Comment terms) “perfect the art of surveillance,” gives law enforcement an efficient and

Tuesdays. And unlawfully seized evidence must be excluded whenever five votes say so. Meanwhile, sensible rules . . . are ignored by the Justices.”)

16. See *infra* Part III.

17. See generally Steven J. Burton, *Normative Legal Theories: The Case for Pluralism and Balancing*, 98 IOWA L. REV. 535, 537 (2013) (“Robust pluralist theories take *all relevant values* into account and balance them when they compete.” (emphasis added)). This Comment uses “pluralist” generally to mean “more than just privacy.” In other words, it would be “pluralist” to advocate for a normative theory of Fourth Amendment searches that considers privacy, liberty, and property, while balancing them when they compete. *Id.* One might call the Supreme Court’s current theory “monist” because it “consider[s] one and only one value [in privacy] and, consequently, hope[s] to avoid balancing competing values.” See *id.*

18. Memorandum Decision and Order Denying Motion to Dismiss at 2–6, No. 32-2011-CR-00049 (N.D. Dist. Ct., Ne. C.D. 2012), available at http://www.nacdl.org/uploadedFiles/files/news_and_the_champion/DDIC/Brossart Order.pdf.

19. See *infra* note 54.

20. See *infra* Part I.B.1.

21. *United States v. Pineda-Moreno*, 617 F.3d 1120, 1126 (9th Cir. 2010) (Kozinski, C.J., dissenting from denial of rehearing en banc).

overpowering tool that is more prone to arbitrary abuse than other surveillance tools.²²

Part II describes the tension between drone surveillance technology and existing Fourth Amendment jurisprudence. Part II.A catalogs and explains that the existing theories of a Fourth Amendment search—the trespass test, the reasonable expectation of privacy test, and the mosaic theory—are all justified under an opaque “right to privacy” rationale. In *Jones*, the Court was able to reach a socially desirable result under the narrowest understanding of privacy rights. However, though intuitively disconcerting, drone surveillance does not clearly impinge on any currently recognized privacy value. Part II goes on to apply these three variants to the facts of *Brossart*, demonstrating the following inconsistent results: The trespass test provides no protection from drone surveillance. The reasonable expectation of privacy test provides no protection in public, but may provide protection for certain details of the home discovered by generally unavailable technology. And the mosaic theory would provide protection from long-term—but not short-term—public surveillance. These privacy distinctions are ultimately of no real moment when it comes to drone surveillance. As demonstrated below, drone surveillance most squarely implicates a personal-liberty value—control of police discretion—rather than current theories of privacy and property. However, because current doctrine is excessively focused on privacy, it excludes socially desirable and relevant considerations. In other words, this Comment argues that the Court cannot give normative weight to facts like those in *Brossart* because its Fourth Amendment theory gives short shrift to liberty considerations that arise when the government abuses its investigatory discretion.

Part III uses the insights of the preceding parts to consider a more comprehensive understanding of Fourth Amendment searches, arguing that the Amendment is better understood, not through common-law rules or a one-size-fits-all privacy rationale,²³ but through social, political, and psychological functions. The Fourth Amendment—and the Constitution and Bill of Rights more generally—should secure the liberty that is essential to a politically free, democratic society. Thus, this Comment seeks to recognize the Fourth Amendment as a broader right, securing multiple values. The Fourth Amendment “protects core interests essential to human flourishing, interests in

22. *Cf.* *Papachristou v. City of Jacksonville*, 405 U.S. 156, 168–69 (1972) (“Another aspect of the ordinance’s vagueness appears when we focus, not on the lack of notice given a potential offender, but on the effect of the unfettered discretion it places in the hands of the Jacksonville police. . . . We allow our police to make arrests only on ‘probable cause,’ a Fourth and Fourteenth Amendment standard applicable to the States as well as to the Federal Government.”).

23. *See* Sklansky, *Fourth Amendment*, *supra* note 12 (arguing that what the common law has of value to offer Fourth Amendment law is not rules, but method).

privacy [as well as] property, and freedom of movement.”²⁴ In any given factual context, one value may weigh more heavily than another.

This Comment’s primary contributions are to provide (1) a detailed, real-life account of drone surveillance and (2) an analysis that illustrates how the Supreme Court’s Fourth Amendment jurisprudence has elided the liberty interest of freedom from abuse of discretion. As a way forward, the remainder of this Comment gestures toward one possible framework (among many) to apply to drone surveillance while embracing a pluralist understanding of Fourth Amendment values. For example, one significant divergence from the privacy-dominated narrative comes from the work of Professor Tracey Maclin. Part III builds upon Maclin’s “right of locomotion” theory, using recent work on panopticism,²⁵ to propose and assess the implications of drone surveillance through a personal liberty lens. Thus, Part III argues that drones can be used to control movement by inducing self-policing or by making physical discretionary stops all the more efficient. Recognizing this under-attended aspect of the Fourth Amendment would allow the Court to solve the drone problem without doctrinally abrogating traditional interests in property and privacy. The Constitution should safeguard the people against government intrusions that impede certain democratic “endeavor[s] that are the hallmark of a truly free society.”²⁶ This Comment does not argue for displacing any privacy rights in any context—its purpose is to reinvigorate a conversation that will functionally enlarge Fourth Amendment values in an age of great technological progress.

I.

DOMESTIC DRONE SURVEILLANCE: A PROBLEM OF POLICE DISCRETION

*“Fourth Amendment freedoms cannot properly be guaranteed if . . . surveillance[] may be conducted solely within the discretion of the Executive”*²⁷

This Section explains why unfettered domestic drone surveillance “will present particularly vexing problems”²⁸ in future cases and therefore merits greater scrutiny. Domestic drone surveillance is a fairly novel phenomenon that is increasingly a matter of public concern.²⁹ A recent Associated Press-National

24. ANDREW E. TASLITZ, RECONSTRUCTING THE FOURTH AMENDMENT: A HISTORY OF SEARCH & SEIZURE, 1789–1868, at 9 (2006).

25. See MICHEL FOUCAULT, DISCIPLINE AND PUNISH 195–228 (Alan Sheridan trans., Vintage Books 2d ed. 1995) (1977). Foucault viewed Bentham’s original architectural panopticon (literally “all seeing”) as an instrument of surveillance used for “enforcing discipline and punishment and a means of defining power relations in everyday lives.” See Jerome E. Dobson & Peter F. Fisher, *The Panopticon’s Changing Geography*, 97 GEOGRAPHICAL REV. 307, 308 (2007). This Comment uses “Panopticon III,” electronic tracking services, as its model. See *id.* at 309.

26. See *Smith v. Maryland*, 442 U.S. 735, 751 (1979) (Marshall, J., dissenting).

27. *United States v. U.S. Dist. Court (Keith)*, 407 U.S. 297, 317 (1972).

28. See *Jones v. United States*, 132 S. Ct. 945, 962 (2012) (Alito, J., concurring).

29. See, e.g., Martin Kaste, *As Police Drones Take Off, Washington State Pushes Back*, NPR

Constitution Center poll revealed that the prospect of domestic drone operations raises serious worry for at least a third of the American public.³⁰ The goal of this Section is to make an implicit societal intuition explicit, by exploring an overlooked aspect of drone surveillance. It will describe the first known account of domestic drone surveillance, arguing that a relevant, day-to-day problem with drone surveillance is the discretion it provides government officials. This Section will also review the capabilities of drone technology, and will argue that the power of that technology is exponentially greater than current investigatory tools.

A. *The Problem with Domestic Drone Surveillance*

1. *The Catalyst: State v. Brossart*

In 2011, Rodney Brossart—a North Dakota farmer—unwittingly became the “first man arrested”³¹ with the assistance of drone surveillance.³² This case involved the most ordinary of agrarian controversies: Brossart was embroiled in a property dispute with a neighboring farmer, Chris Anderson, over six cows.³³ One morning, Anderson noticed that three of his cow-calf pairs had escaped from an enclosure.³⁴ Anderson spotted cattle tracks and followed the trail. The tracks led him to a fenced-in area about a half mile from the Brossart farm. Anderson knew that Rodney Brossart rented the property. Anderson paid Brossart a visit hoping for the return of his cattle, but Brossart refused, demanded remuneration, and accused Anderson of trespassing. Anderson went home and reported the incident to the Nelson County Sheriff’s Department.

NEWS (Feb. 22, 2013, 5:46 PM), <http://www.npr.org/2013/02/22/172696814/as-police-drones-take-off-washington-state-pushes-back>; Kevin O’Hanlon, *Police Drone Use Targeted by Nebraska Bill*, FREMONT TRIB. (Jan. 25, 2013, 9:00 AM), http://fremonttribune.com/news/local/police-drone-use-targeted-by-nebraska-bill/article_c3ad98f9-becc-5a0d-b7db-6091b3f6070c.html; Todd Woody, *Drone Wars: Berkeley Considers Ban on Robotic Aircraft*, FORBES (Dec. 21, 2012, 12:09 PM), <http://www.forbes.com/sites/toddwoody/2012/12/21/drone-wars-come-home-as-berkeley-considers-ban-on-robotic-aircraft>.

30. See Joan Lowy, *AP-NCC Poll: A Third of the Public Fears Police Use of Drones for Surveillance Will Erode Their Privacy*, ASSOCIATED PRESS (Sept. 27, 2012), <http://ap-gfkipoll.com/uncategorized/our-latest-poll-findings-13>.

31. See Koebler, *supra* note 4 (“first man arrested” according to media headlines). Of course, a drone did not physically arrest Brossart. He was arrested before the drone was used. As made clear later, the drone was actually used to aid police officers in the successful raid of his ranch and arrest of his sons.

32. See *id.* Although the media has perhaps solidified Brossart’s martyrdom, some have reported that a UAV was used as early as 2009 to informally assist local North Dakota law enforcement agencies “by surveying a moving vehicle suspected to be trafficking drugs.” See Vacek, *supra* note 10, at 690–91.

33. *State v. Brossart*, Memorandum Decision and Order Denying Motion to Dismiss at 2–6, No. 32-2011-CR-00049 (N.D. Dist. Ct., Ne. C.D. 2012), available at [http://www.nacdl.org/uploaded/Files/files/news_and_the_champion/DDIC/Brossart Order.pdf](http://www.nacdl.org/uploaded/Files/files/news_and_the_champion/DDIC/Brossart%20Order.pdf).

34. *Id.* at 2–3.

Deputy Sheriff Braathen and North Dakota Stockmen's Association Field Agent Fredrickson attempted to mediate the dispute.³⁵

The ensuing street confrontation between the Deputy Sheriff and Brossart implicated a familiar police procedure—a seizure of the person—that was perhaps more colorful than most. According to Brossart, his family members “prefer to limit their contact with governmental actors.”³⁶ Despite their best efforts, the Brossarts claim to “have been repeat victims of overreaching, officious, and unlawful conduct of governmental officers.”³⁷ Unsurprisingly, then, when Deputy Sheriff Braathen encountered Brossart at a local water pump, tensions were high, and a confrontation soon erupted. When the deputy insisted upon seeing the cattle, Brossart replied, “If you go onto the property you’re not coming back.”³⁸ This comment, and Brossart’s failure to cooperate, prompted the deputy to place Brossart under arrest.³⁹ Brossart pulled away and said, “Show me the writ.”⁴⁰ The deputy did not have an arrest warrant, but went on to tase Brossart three times for resisting arrest and for threatening an officer.⁴¹ Brossart was eventually incapacitated, handcuffed, and placed into a patrol car.⁴²

At this point, however, police procedures became distinctly unfamiliar: the officers deployed a drone in their ongoing investigation of Brossart. Later that day, local law enforcement obtained a search warrant to retrieve Anderson’s cattle from the Brossart farm.⁴³ Sheriff Janke and another deputy went to the farm to serve the warrant.⁴⁴ Three of Brossart’s sons brandished their firearms and ran the officers off the farm.⁴⁵ Janke and the deputy thought it prudent to take further precautions before attempting to enter the property again. The warrant was silent as to the use of a drone, but according to Nelson County States Attorney Douglas Manbeck, the sheriffs arranged for a Department of Homeland Security (DHS) Predator drone to survey the sprawling property to “help assure there weren’t weapons and to make [the arrest] safer for both the Brossarts and law enforcement.”⁴⁶ The drone was on its way back from Canadian border patrol when it took action the next

35. *Id.* at 3.

36. See Brief in Support of Motion to Dismiss at 2, *State v. Brossart*, No. 32-2011-CR-00049 (N.D. Dist. Ct., Ne. C.D. 2012), available at <http://www.scribd.com/doc/119715885/92426499-State-of-North-Dakota-vs-Rodney-Brossart> [hereinafter *Brossart* Brief].

37. *Id.*

38. *State v. Brossart*, Memorandum Decision and Order Denying Motion to Dismiss at 2–6, No. 32-2011-CR-00049 (N.D. Dist. Ct., Ne. C.D. 2012), available at [http://www.nacdl.org/uploaded/Files/files/news_and_the_champion/DDIC/Brossart Order.pdf](http://www.nacdl.org/uploaded/Files/files/news_and_the_champion/DDIC/Brossart%20Order.pdf).

39. *Id.*

40. *Id.* at 4.

41. *Id.*

42. *Id.*

43. *Id.* at 5.

44. *Id.*

45. *Id.*

46. See Koebler, *supra* note 4 (alteration in original).

morning.⁴⁷ The drone flew over the curtilage of the Brossart property, and the remote operator observed that the sons were unarmed.⁴⁸ The police swiftly moved in, seized the cattle, and arrested the Brossart clan.⁴⁹

At his trial, Rodney Brossart moved to suppress the evidence against him as obtained in violation of the Fourth Amendment, but his motion was denied.⁵⁰ Brossart argued that drone surveillance is unreasonable per se and that the evidence should be suppressed because “[t]he unmanned aircraft was dispatched *without judicial approval or a warrant*.”⁵¹ District of North Dakota Judge Medd’s ruling on the drone issue read in its entirety: “There was no improper use of an unmanned aerial vehicle. It appears to have had no bearing on these charges being contested here.”⁵² Brossart has vowed to fight the ruling.⁵³ Although he may have a difficult appeal ahead of him, the case provides a true-to-life example of drone surveillance that will provide a foundation for the doctrinal analysis below.

2. Abuse of Police Discretion

As the preceding discussion illustrates, Peeping Tom drones were not Brossart’s chief grievance. Rather, drone surveillance implicated a “central meaning” of the Fourth Amendment—“distrust of police power and discretion.”⁵⁴ Law enforcement agencies desire drones to make their civil physical operations more efficient. As homeland security expert Dan Verton explained, “The mission is to have just a few officers being able to cover arguably the entire city wherever there’s a camera, and redirect resources—police *on the street*—to areas where they are needed as opposed to having to blanket the street with officers.”⁵⁵ Thus, drones would be used to transcend practical restraints on policing. Consider the *Brossart* case: Brossart’s

47. See *State v. Brossart*, Memorandum Decision and Order Denying Motion to Dismiss at 2–6, No. 32-2011-CR-00049 (N.D. Dist. Ct., Ne. C.D. 2012), available at [http://www.nacdl.org/uploadedFiles/files/news_and_the_champion/DDIC/Brossart Order.pdf](http://www.nacdl.org/uploadedFiles/files/news_and_the_champion/DDIC/Brossart%20Order.pdf); *Brossart* Brief, *supra* note 36, at 5.

48. *Id.*

49. See *Brossart* Brief, *supra* note 36, at 5.

50. *State v. Brossart*, Memorandum Decision and Order Denying Motion to Dismiss at 2–6, No. 32-2011-CR-00049 (N.D. Dist. Ct., Ne. C.D. 2012), available at [http://www.nacdl.org/uploadedFiles/files/news_and_the_champion/DDIC/Brossart Order.pdf](http://www.nacdl.org/uploadedFiles/files/news_and_the_champion/DDIC/Brossart%20Order.pdf).

51. *Brossart* Brief, *supra* note 36, at 19 (emphasis added).

52. *State v. Brossart*, Memorandum Decision and Order Denying Motion to Dismiss at 2–6, No. 32-2011-CR-00049 (N.D. Dist. Ct., Ne. C.D. 2012), available at [http://www.nacdl.org/uploadedFiles/files/news_and_the_champion/DDIC/Brossart Order.pdf](http://www.nacdl.org/uploadedFiles/files/news_and_the_champion/DDIC/Brossart%20Order.pdf).

53. See Koebler, *supra* note 4.

54. See Tracey Maclin, *The Central Meaning of the Fourth Amendment*, 35 WM. & MARY L. REV. 197, 201 (1993) (“The constitutional lodestar for understanding the Fourth Amendment is not an ad hoc reasonableness standard; rather, the central meaning of the Fourth Amendment is distrust of police power and discretion.”); see also *Terry v. Ohio*, 392 U.S. 1, 38 (1968) (Douglas, J., dissenting) (“To give the police greater power than a magistrate is to take a long step down the totalitarian path.”).

55. Kate Dailey, *The Rise of CCTV Surveillance in the US*, BBC NEWS MAG. (Apr. 28, 2013), <http://www.bbc.co.uk/news/magazine-22274770> (emphasis added).

grievance with the governmental intrusion was an overpowering use of force “without judicial approval or warrant,”⁵⁶ not an invasion of intimate privacy. The Brossarts had a long history of resisting police authority.⁵⁷ In response, North Dakota police used a DHS drone—tasked with guarding the nation’s borders—to aid in seizing six cows and disarming three men. Was the police procedure necessary or even proportional to the threat posed? According to Grand Forks, North Dakota SWAT team leader Bill Macki, drones are a “useful tool [because] their effectiveness in rural operations is exceptional.”⁵⁸ In other words, “[d]evices like the one used in [*Brossart*] . . . make long-term monitoring relatively *easy and cheap*.”⁵⁹

As such, this Comment’s major concern with domestic drone surveillance is not “privacy.” In the vast majority of cases, police will not use drones to observe “at what hour each night the lady of the house takes her daily sauna and bath.”⁶⁰ Although this Comment does not focus on “voyeuristic” or Peeping Tom drones,⁶¹ intimate privacy concerns are relevant Fourth Amendment values that deserve protection. To be sure, one can imagine such distasteful surveillance being used for blackmail and persuasion (among other things), even from public vantage points. However, those privacy concerns are being trumpeted so loudly that they have obscured another relevant problem with drone surveillance—discriminatory sorting through discretionary law enforcement. More precisely, the fear is “provid[ing] law enforcement with a swift, efficient, invisible, and cheap way of tracking the movements of virtually anyone and everyone *they choose*.”⁶² Police, through legislative encouragement and judicial acquiescence, now have power—unmatched in history—on the streets of this country: “a form of paramilitarized violence found in a rapidly expanding criminal justice-industrial complex, with both ideological and material connections to the military industrial complex.”⁶³ Drone surveillance is yet another tool in the arsenal of police discretion, including “surveillance,

56. See *Brossart* Brief, *supra* note 36, at 19.

57. See *id.* at 2–3.

58. See Koebler, *supra* note 4.

59. Cf. *United States v. Jones*, 132 S. Ct. 945, 964 (2012) (Alito, J., concurring) (emphasis added).

60. See *Kyllo v. United States*, 533 U.S. 27, 38 (2001).

61. See Eli Dourado, *The Next Internet-Like Platform for Innovation? Airspace (Think Drones)*, WIRED (Apr. 23, 2013, 6:30 AM), <http://www.wired.com/opinion/2013/04/then-internet-now-airspace-dont-stifle-innovation-on-the-next-great-platform>.

62. See *United States v. Pineda-Moreno*, 617 F.3d 1120, 1126 (9th Cir. 2010) (Kozinski, C.J., dissenting from denial of rehearing en banc) (emphasis added); see also *United States v. Jones*, 132 S. Ct. 945, 956 (2012) (Sotomayor, J., dissenting) (“And because GPS monitoring is cheap in comparison to conventional surveillance techniques and, by design, proceeds surreptitiously, it evades the ordinary checks that constrain abusive law enforcement practices: ‘limited police resources and community hostility.’” (citations omitted)).

63. Peter B. Kraska & Victor E. Kappeler, *Militarizing the American Police: The Rise and Normalization of Paramilitary Units*, 44 *Social Problems* 1, 14 (1997).

arrest, [detention and] incarceration, and the use of force up to and including the authority to kill.”⁶⁴

Preliminary regulatory efforts have aimed to curb police discretion in drone surveillance. For example, in 2012, Senator Rand Paul—perhaps the most notorious anti-drone advocate—introduced a bill to that effect in the U.S. Senate.⁶⁵ Senator Paul’s bill called for a uniform warrant requirement before any drone could be used to gather criminal evidence.⁶⁶ It also provided well-delineated use exceptions for border patrols, exigent circumstances, and high-risk homeland security operations.⁶⁷ Finally, it included a federal remedy and exclusionary rule.⁶⁸ Thus, at a structural level, Senator Paul’s bill was concerned with government use of drones for investigatory purposes, unchecked by a neutral judicial process.

Although Senator Paul’s bill died when referred to the Senate Judiciary Committee,⁶⁹ he continues to call for checks on government discretion. Recently, Senator Paul filibustered CIA Director John Brennan’s Senate confirmation hearing for thirteen hours.⁷⁰ Senator Paul ended the filibuster only when President Obama conceded that he did not “have the authority to use a weaponized drone to kill an American not engaged in combat on American soil.”⁷¹ Although the hypothetical seemed implausible, the controversy ran deep for Senator Paul. He did not question President Obama personally. Nor was he concerned with Peeping Tom drones.⁷² Rather, Senator Paul was

64. CHARLES R. EPP, MAKING RIGHTS REAL: ACTIVISTS, BUREAUCRATS, AND THE CREATION OF THE LEGALISTIC STATE 33 (2009); see also Paul Takagi, *A Garrison State in “Democratic” Society*, 1 CRIME & SOCIAL JUSTICE 27, 29 (1974).

65. Preserving Freedom from Unwarranted Surveillance Act of 2012, S. 3287, 112th Cong. (describing it as a bill “[t]o protect individual privacy against unwarranted governmental intrusion through the use of the unmanned aerial vehicles commonly called drones”).

66. *Id.* § 3 (“[A] person or entity acting under the authority, or funded in whole or in part by, the Government of the United States shall not use a drone to gather evidence or other information pertaining to criminal conduct or conduct in violation of a statute or regulation except to the extent authorized in a warrant that satisfies the requirements of the Fourth Amendment to the Constitution of the United States.”).

67. *Id.* § 4.

68. *Id.* §§ 5–6.

69. See GOVTRACK.US, <http://www.govtrack.us/congress/bills/112/s3287> (last visited Apr. 9, 2014) (noting the status of the bill as “Died (Referred to Committee)”).

70. See Hendrik Hertzberg, *The Drone Perplex: Rand Paul and Obama*, NEW YORKER (Mar. 17, 2013), <http://www.newyorker.com/online/blogs/comment/2013/03/rand-paul-and-the-drone-war.html> (“Senator Paul held up the Brennan nomination because he wanted to know if the Obama Administration claims the right, at its discretion, to use predator drones to kill American citizens on American soil . . .”).

71. *Id.*

72. Admittedly, Senator Paul has mixed up his issues. In a recent interview he said, “It’s different if they want to come fly over your hot tub or your yard just because they want to do surveillance on everyone and they want to watch your activities.” See Ginger Gibson, *Rand Paul Defends Himself Against Drone Backlash*, POLITICO (Apr. 25, 2013, 6:07 PM), <http://www.politico.com/story/2013/04/paul-defends-himself-against-drone-backlash-90656.html>.

Senator Paul later backtracked from this statement, reaffirming his “filibuster” position.

looking for a lasting safeguard against government discretion over drones; it was about “having rules, [in case] someday you have the misfortune to elect someone you do not trust, *someone who might [target] people that they disagree with politically.*”⁷³ Senator Paul feared unchecked, arbitrary oppression by government actors. Indeed, it is “important to remember that governments and law enforcement agencies often abuse their power.”⁷⁴ As President Obama acknowledged in his State of the Union address, “[I]n our democracy, no one should just take my word for it that we’re doing things the right way.”⁷⁵ To be sure, the Supreme Court has long recognized that the Fourth Amendment “does not contemplate the executive officers of Government as neutral and disinterested magistrates.”⁷⁶

Having neutral actors necessarily limits discretion in order to safeguard the relationship between citizen and government in a democratic society.⁷⁷ Giving executive officers discretion over powerful technology can shift this balance. For example, drones have blanketed the skies in Pakistan since at least 2009—the first strike is widely believed to have occurred in 2004.⁷⁸ Pakistani victims of U.S. extraterritorial drone strikes live in constant fear of their power. One such victim recounts living under drones twenty-four hours per day: “I have been seeing drones since the first one appeared about four to five years ago.”⁷⁹ He went on to explain: “*People are afraid . . . , they are all psychologically affected. They look at the sky to see if there are drones.*”⁸⁰ These extraterritorial accounts are illustrative: the drone’s capabilities alone inspire fear and induce an oppressive psychological effect without actually or continuously being present. As Justice Sotomayor has recognized:

73. See Hertzberg, *supra* note 70 (emphasis added).

74. “Think of the Jim Crow South. Think of former New York Gov. Eliot Spitzer using state police (including a helicopter) to track political rival Joe Bruno.” Timothy P. Carney, *Civil Society, Not Big Brother, Is the American Way*, WASH. EXAMINER (Apr. 21, 2013), <http://washingtonexaminer.com/timothy-p.-carney-civil-society-not-big-brother-is-the-american-way/article/2527754>. Watergate was an example of an abuse of executive discretion, authorized by the president, to target political rivals. See SAMUEL DASH, *THE INTRUDERS: UNREASONABLE SEARCHES AND SEIZURES FROM KING JOHN TO JOHN ASHCROFT* 10 (2004).

75. Barack Obama, Remarks by the President in the State of the Union Address (Feb. 12, 2013, 9:15 PM) (transcript available at <http://www.whitehouse.gov/the-press-office/2013/02/12/remarks-president-state-union-address>).

76. *United States v. U.S. Dist. Court (Keith)*, 407 U.S. 297, 317 (1972).

77. *Cf. W. Va. State Bd. of Educ. v. Barnette*, 319 U.S. 624, 636–42 (1943) (“There is no mysticism in the American concept of the State or of the nature or origin of its authority. We set up government by consent of the governed, and the Bill of Rights denies those in power any legal opportunity to coerce that consent. Authority here is to be controlled by public opinion, not public opinion by authority.”).

78. See Stanford Int’l Human Rights & Conflict Resolution Clinic, *Background and Context, LIVING UNDER DRONES*, <http://www.livingunderdrones.org/background-and-context> (last visited Mar. 7, 2014).

79. See Stanford Int’l Human Rights & Conflict Resolution Clinic, *Victim Stories, LIVING UNDER DRONES*, <http://www.livingunderdrones.org/victim-stories> (last visited Mar. 7, 2014).

80. See *id.* (emphasis added).

Government's unrestrained power to assemble data . . . is susceptible to abuse. The net result is that . . . monitoring—by making available at a relatively low cost such a substantial quantum of . . . information about any person whom the Government, in its unfettered discretion, chooses to track—may “alter the relationship between citizen and government in a way that is inimical to democratic society.”⁸¹

Moreover, recent national turmoil helps illustrate why police discretion should be reasonably exercised through a consenting civil society, not through coercion. On April 15, 2013, two explosive devices were detonated near the finish line of the Boston Marathon.⁸² Within hours, the scope of the tragedy unfolded as three died at the scene and hundreds more were injured.⁸³ Three days later, the suspects were identified using CCTV surveillance.⁸⁴ That night, a Massachusetts Institute of Technology police officer was murdered.⁸⁵ After a whirlwind series of events ensued, the suspects were identified, with one killed in pursuit while the other fled on foot.⁸⁶ By April 19, Massachusetts Governor Deval Patrick asked the entire city of Boston to “shelter-in-place.”⁸⁷ In other words, “the United States got a taste of martial law,”⁸⁸ as federal and state law enforcement officers conducted a manhunt for the remaining suspect. Some described the scene in Boston as eerie, noting that “heavily armed members of the military, assisted by local law enforcement, [we]re going door-to-door in Watertown, searching every house, garage, and shed for bombing suspect Dzhokhar Tsarnaev.”⁸⁹ CNN reported that nine thousand law enforcement officers were mobilized, a no-fly zone was placed in effect, businesses were closed, all traffic was banned from the city, and the media were asked not to film the law enforcement officers' conduct.⁹⁰ Police ultimately found the remaining suspect.

In the weeks after the Boston bombings, congressional representatives, executive officers, and media commentators advocated for even more robust

81. See *United States v. Jones*, 132 S. Ct. 945, 956 (2012) (Sotomayor, J., concurring).

82. *Boston Marathon Terror Attack*, CNN (Apr. 22, 2013, 6:00 PM), <http://www.cnn.com/interactive/2013/04/us/boston-marathon-terror-attack>.

83. See *id.*

84. *Id.*

85. *Id.*

86. *Id.*

87. See Philip Bump, *This Is What It Looks Like When the Police Shut Down a City*, THE WIRE (Apr. 19, 2013, 8:12 AM), <http://www.thewire.com/national/2013/04/boston-lockdown-residents-are-asked-shelter-place-while-cops-sweep-watertown/64383> (please take the opportunity to look at the pictures posted by average citizens on Twitter as reproduced in this comment); see also Jim O'Sullivan, *Deval Patrick, State Police Defend Response to Boston Marathon Bombings*, BOSTON.COM (Apr. 26, 2013, 12:44 PM), <http://www.boston.com/politicalintelligence/2013/04/26/deval-patrick-state-police-defend-response-boston-marathon-bombings/13qKrwsu4wG3ILJRdzeQAI/story.html>.

88. Ron Paul, *Liberty Was Also Attacked in Boston*, LEWROCKWELL.COM (Apr. 29, 2013), <http://archive.lewrockwell.com/paul/paul858.html>.

89. Bump, *supra* note 87.

90. *Id.*

law enforcement measures. Some called for a “Ring of Steel”—modeled after London’s vast network of five hundred thousand government-owned CCTV cameras—to systematically watch the streets, “in a way that aids law enforcement.”⁹¹ At the time of this writing, Boston Police Commissioner Ed Davis is considering drone surveillance for the 2014 Boston Marathon: “Drones are a great idea . . . to cover an event like this, and have an eye in the sky that would be much cheaper to run than a helicopter”⁹² In times of crisis, security concerns are high. But are more efficient, preemptive law enforcement-owned surveillance systems a necessary step? Despite the vigorous executive response, the Boston suspects were apprehended through civic cooperation with police, not through paramilitary presence. The first images of the suspects were from private cameras that were willingly shared with police.⁹³ The second suspect was found *after* the “shelter-in-place” order was lifted, when a private citizen saw the suspect hiding in a boat and willingly called the police.⁹⁴

This dreadful series of events demonstrates that “[t]he American system requires the willing participation of the public, or maybe warrants from a judge—or at least subpoenas.”⁹⁵ These are the ways we ensure the reasonable exercise of executive discretion—open participation and neutral authorization.

B. Drone Surveillance Capabilities

This Section provides some necessary background on drone surveillance capabilities. It begins with some technical background on the drone used in *Brossart*: the Predator. This factual predicate helps explain why drone technology is more prone to unreasonable discretionary abuse than other surveillance technologies—what this Comment terms “perfecting the art of surveillance.”

1. The Predator and the ARGUS Imaging System

The MQ-series Predator⁹⁶ is the quintessential drone. The current MQ-1 Predator was developed by General Atomics Aeronautical Systems, Inc. in San Diego County, California.⁹⁷ However, Abe Karem developed the Predator’s

91. See Farhad Manjoo, *We Need More Cameras, and We Need Them Now: The Case for Surveillance*, SLATE (Apr. 18, 2013, 6:10 PM), http://www.slate.com/articles/technology/technology/2013/04/boston_bomber_photos_the_marathon_bombing_shows_that_we_need_more_security.html.

92. See *Boston Police Chief Wants Drones for Next Year’s Marathon*, RT (Apr. 26, 2013, 4:57 PM), <http://rt.com/usa/boston-marathon-surveillance-drones-452>.

93. See Carney, *supra* note 74.

94. See Paul, *supra* note 88.

95. See Carney, *supra* note 74.

96. See generally GEN. ATOMICS AERONAUTICAL, MQ-1 PREDATOR: PERSISTENT ISR AND STRIKE (2013), available at http://www.ga-asi.com/products/aircraft/pdf/MQ-1_Predator.pdf.

97. *Id.*

precursor—the Albatross—for persistent surveillance, not armament.⁹⁸ Still operational today, the MQ-1 Predator has a broad fifty-five-foot wingspan and rear propulsion system, helping it remain aloft for upwards of forty hours.⁹⁹ A typical Predator drone is piloted remotely and carries a 450-pound surveillance payload.¹⁰⁰ That payload consists of two electro-optical cameras, one infrared camera for night vision, a multispectral laser targeting system to track mobile objects, synthetic aperture radar for use in inclement weather, and GPS for beyond-line-of-sight operation.¹⁰¹ In short, the Predator can stay in the sky for nearly two days, tracking mobile targets with GPS-aided precision day or night, rain or shine.

If this seems like overkill, don't be surprised: the Predator was engineered for “long-endurance, medium-altitude Intelligence, Surveillance and Reconnaissance (ISR)”¹⁰² during the Cold War. Beginning with the Afghanistan and Iraq conflicts of the early 2000s, military demand for persistent intelligence gathering increased because enemy combatants were often hidden among civilian populations.¹⁰³ When put to use in hostile territory, the Predator's capabilities allowed persistent, impeccable ISR and human target acquisition. However, one drawback to the standard Predator payload is the image sensor's limited field of view. The single camera creates a tunnel vision effect; when a Predator operator zooms into a target, it is like looking through a straw—wider context is lost.¹⁰⁴ But new image-sensor technologies are already improving.

The next breakthrough in drone technology dwarfs the Predator's standard surveillance payload and makes continuous real-time surveillance and tracking simple. The ARGUS Imaging System was recently developed and tested by a research agency funded by the U.S. Department of Defense (DOD).¹⁰⁵ This next-generation image sensor is currently the world's highest resolution camera—1.8 billion pixels.¹⁰⁶ The sensor consists of 368 five-megapixel cellphone cameras weaved into a mosaic, much like an insect's compound

98. See *Brain Scan: The Dronefather*, ECONOMIST, Dec. 1, 2012, <http://www.economist.com/news/technology-quarterly/21567205-abe-karem-created-robotic-plane-transformed-way-modern-warfare>.

99. See GEN. ATOMICS AERONAUTICAL, *supra* note 96.

100. GERTLER, *supra* note 2, at 34.

101. *Id.*

102. GEN. ATOMICS AERONAUTICAL, *supra* note 96.

103. See GERTLER, *supra* note 2, at 1.

104. See *Rise of the Drones* (PBS television broadcast Jan. 23, 2013), available at <http://www.pbs.org/wgbh/nova/military/rise-of-the-drones.html>.

105. See Ryan Gallagher, *Could the Pentagon's 1.8 Gigapixel Drone Camera Be Used for Domestic Surveillance?*, SLATE (Feb. 6, 2013, 10:14 AM), http://www.slate.com/blogs/future_tense/2013/02/06/argus_is_could_the_pentagon_s_1_8_gigapixel_drone_camera_be_used_for_domestic.html; see also *Rise of the Drones*, *supra* note 104.

106. Gallagher, *supra* note 105.

eye.¹⁰⁷ ARGUS melds together video from each individual chip to create a persistent, tremendously detailed video stream. About one million terabytes of video data is archived per day.¹⁰⁸ The innovation, however, is what ARGUS can do with that data. At 17,500 feet, over a fifteen-square-mile radius, one ARGUS sensor mounted on a drone platform is the equivalent of one hundred standard Predators flying overhead.¹⁰⁹ The sensor generates a detailed map (imagine a more detailed Google map), but the map is moving, interactive, and in real time.¹¹⁰ The operating technician can zoom in to any object on the map in a pop-up window, while maintaining the wider context.¹¹¹ The processor automatically tracks all moving objects and up to sixty-five independent surveillance windows can be opened at once.¹¹² The operator can see objects as small as six inches from the ground—anything from birds to the clothes a person is wearing.¹¹³ All of this information is archived.¹¹⁴ ARGUS was designed to provide a persistent video feed over a medium-sized city twenty-four hours a day, seven days a week.¹¹⁵ Moreover, the ARGUS payload can be swapped between any drone platform—from a standard Predator drone, for example, to the concept SolarEagle (designed to stay aloft for five years at a time).¹¹⁶ ARGUS has already been tested over Quantico, Virginia, but whether it has been deployed “in the field” is classified.¹¹⁷

2. Distinguishing Drones: Perfecting the Art of Surveillance

Any law enforcement technology can be abused, so what makes unfettered drone surveillance more threatening than other forms of surveillance? This Section argues that the balance of power between citizen and state is exacerbated primarily by one factor unique to drone technology: drones were designed to perfect the art of gathering intelligence. Specifically, drone surveillance is highly efficient and persistent, difficult to detect, and difficult to

107. On compound eyes, see generally R. Völkel et al., *Miniaturized Imaging Systems*, 67–68 MICROELECTRONIC ENGINEERING 461, 471 (2003) (“Here the most promising approach is a kind of cluster camera, a combination of single lens systems forming a complete image by spatial or electronic superposition.”). On ARGUS, see Gallagher, *supra* note 105.

108. *Rise of the Drones*, *supra* note 104.

109. *Id.*

110. See, e.g., DARPA, ARGUS-IS MISSION POSTER (Nov. 3, 2009), available at [http://www.darpa.mil/uploadedImages/Content/Our_Work/I2O/Programs/Autonomous_Real-time_Ground/Images/full/ARGUS_Mission14_Poster_12-06-0920\(rev1\)\[1\].JPG](http://www.darpa.mil/uploadedImages/Content/Our_Work/I2O/Programs/Autonomous_Real-time_Ground/Images/full/ARGUS_Mission14_Poster_12-06-0920(rev1)[1].JPG).

111. *See id.*

112. *Id.*; see also *Rise of the Drones*, *supra* note 104.

113. See *Rise of the Drones*, *supra* note 104.

114. *Id.*

115. *Id.*

116. See *id.*; Ned Smith, *Solar-Powered UAV Can Stay Aloft 5 Years*, NBC NEWS (Sept. 22, 2010, 4:47 PM), http://www.nbcnews.com/id/39313306/ns/technology_and_science-tech_and_gadgets/t/solar-powered-uav-can-stay-aloft-years.

117. *Rise of the Drones*, *supra* note 104.

resist. The result is a well-founded fear—in the hands of police, drones make the specter of unfettered and unknown discretion all too possible.¹¹⁸

Discretionary drone surveillance is exceptionally powerful relative to existing safeguards. Generally speaking, technological sophistication increases at an exponential rate,¹¹⁹ while the law develops slowly over time. In the surveillance-technology context, this phenomenon creates “a widening chasm between our . . . capacity to observe . . . and the protections available to . . . citizens under the law.”¹²⁰ In other words, rapidly advancing technological intrusions have failed to spur on proportional transformations in the law—statutory or otherwise.¹²¹ But if “[w]e must balance the nature and quality of the intrusion on the individual’s Fourth Amendment interests against the importance of the governmental interests alleged to justify the intrusion,”¹²² this lag threatens to upset the equilibrium. The worry is that disproportionately powerful and unchecked surveillance technology makes abuse far too easy.¹²³ As Justice Scalia plainly recognized in *Kyllo v. United States*, “police technology [can] erode” the guarantees of the Fourth Amendment.¹²⁴

118. See RONALD BERMAN, MODERNITY AND PROGRESS: FITZGERALD, HEMINGWAY, ORWELL 85 (2005) (“Aristotle writes, in fact, *that private life may be the main issue*. We see this idea translated by Orwell into novelistic episodes . . . Aristotle describes the tyrannical practices of preventing private gatherings, requiring citizens to appear in public, getting ‘regular information about every man’s sayings and doings.’”).

119. Moore’s Law states that the number of transistors on an integrated circuit increases exponentially. See Gordon E. Moore, *Cramming More Components onto Integrated Circuits*, 38 ELECTRONICS 114 (1965). In practical terms, this means “chips and computers have become simultaneously more powerful and less expensive” at an exponential rate of growth; this trend was predicted to continue. Michael Kanellos, *Moore’s Law to Roll On for Another Decade*, CNET (Feb. 10, 2003, 2:27 PM), <http://news.cnet.com/2100-1001-984051.html>.

120. Calo, *supra* note 11, at 30; see also Warren & Brandeis, *supra* note 11, at 195 (responding to the intrusions of photography technology into the “sacred precincts of private and domestic life”).

121. See Calo, *supra* note 11, at 30 (“Computers, the Internet, RFID, GPS, biometrics, facial recognition—none of these developments has created [a] sea change in privacy thinking.”). Legislative protections against so-called invasions of privacy are rare, but when they do occur they tend to “respond to specific instances or abuses.” *Id.* at 29.

122. *United States v. Place*, 462 U.S. 696, 703 (1983). The Court is familiar with such balancing. It has long noted the balancing function of the Fourth Amendment. See *id.*; *Schmerber v. California*, 384 U.S. 757, 767 (1966) (“The overriding function of the Fourth Amendment is to protect personal privacy and dignity against unwarranted intrusion by the State.”). But as Professor Maclin argues, the error is defining privacy as the only Fourth Amendment right. See Maclin, *supra* note 54, at 201.

123. See *United States v. Jones*, 132 S. Ct. 945, 963–64 (2010) (Alito, J., concurring) (noting that the traditional checks on police surveillance were difficulty and practical costs, but that in the technological age, devices like GPS make surveillance cheap and easy to employ against anyone); see also *United States v. Pineda-Moreno*, 617 F.3d 1120, 1124 (9th Cir. 2010) (Kozinski, C.J., dissenting from denial of rehearing en banc) (“[Traditional technology] required at least one officer—and usually many more—to follow the suspect. The modern devices . . . can record [a person’s] movements without human intervention—quietly, invisibly, with uncanny precision. A small law enforcement team can deploy a dozen, a hundred, a thousand such devices and keep track of [a suspect’s] various movements by computer, with far less effort than was previously needed to follow a single vehicle.”).

124. See *Kyllo v. United States*, 533 U.S. 27, 34 (2001).

Drones are more prone to abuse than other investigatory tools currently available because of their unique attributes: versatility, persistence, and efficiency. In military terms, drones are deployed for missions that are too “dirty, dull, or dangerous” for human pilots.¹²⁵ When a pilot might become exhausted, a drone will persist. When a human life is not worth risking, a drone will go forth. When the expense of sending a human pilot on a mission is not worth it, a drone will do. When a human eye cannot see, a drone can detect. Drones are, by design, capable of what human pilots are not. At the very least, drone systems can do the same job as piloted aircrafts, just far more efficiently.¹²⁶ For these reasons, the demand for drone capabilities in civilian law enforcement has increased.¹²⁷ To be sure, they are increasingly desirable to civilian law enforcement for a wide variety of purposes—from investigatory to benevolent.¹²⁸

So what’s the problem with a highly effective tool? When put to use by institutionally unchecked law enforcement in a relatively tranquil domestic environment, “perfect” clandestine surveillance capabilities are, in Ninth Circuit Chief Judge Kozinski’s terms, “creepy and un-American”¹²⁹ because they overpower the ordinary civilian’s practical capacity to counteract or resist arbitrary and unfettered discretion.¹³⁰ Dissenting from the denial of rehearing en banc in *United States v. Pineda-Moreno*, a case involving facts nearly identical to *Jones*, Chief Judge Kozinski took issue with the panel’s holding that continuous GPS tracking of Pineda-Moreno’s movements was not a search

125. See BART ELIAS, CONG. RESEARCH SERV., R42718, PILOTLESS DRONES: BACKGROUND AND CONSIDERATIONS FOR CONGRESS REGARDING UNMANNED AIRCRAFT OPERATIONS IN THE NATIONAL AIRSPACE SYSTEM 2 (2012).

126. UAVs generally reduce the cost of operation and target acquisition when compared to manned platforms. However, there are two factors that may currently price military grade UAVs out of the civilian market. First, sensors can be quite expensive. The problems are “requirements creep” and inconsistent management practices. Second, UAVs in the military context come in systems, not single planes. As a system, the cost might be higher. See GERTLER, *supra* note 2, at 10–11; see also Vacek, *supra* note 10, at 676 (finding that manned systems can cost “approximately \$500 per hour to operate,” compared to unmanned systems, which can “cost[] less than \$5 per hour”).

127. See Matthew L. Wald, *Domestic Drones on Patrol*, N.Y. TIMES, Mar. 18, 2013, at B1 (“The burst of [commercial] activity in remotely operated planes stems from the confluence of two factors: electronics and communications gear has become dirt cheap, enabling the conversion of hobbyist radio-controlled planes into sophisticated platforms for surveillance, and the [FAA] has been ordered by Congress to work out a way to integrate these aircraft into the national airspace by 2015.”).

128. See *Alameda Drone Use: Sheriff Vows No Spying Will Occur in California County*, HUFFINGTON POST (Dec. 10, 2012, 12:07 PM), http://www.huffingtonpost.com/2012/12/10/alameda-drone-use-sheriff_n_2271570.html (“Alameda County Sheriff Greg Ahern said Tuesday that a drone his department is pursuing would be used for search and rescue missions, responding to wildfires and to capture fugitives, not for surveillance and intelligence gathering on civilians.”).

129. See 617 F.3d 1120, 1126 (9th Cir. 2010) (Kozinski, C.J., dissenting from denial of rehearing en banc).

130. Cf. *Katz v. United States*, 389 U.S. 347, 351–52 (1967) (“But what he seeks to preserve as private, even in an area accessible to the public, may be constitutionally protected.”). This Comment does not use the *Katz* language in the doctrinal sense of a reasonable expectation of privacy, but for its succinct encapsulation of the balance between state and civilian power.

within the meaning of the Fourth Amendment.¹³¹ The conceptually hard-hitting sections of Chief Judge Kozinski's opinion involve the total power that unrestrained technology and governmental discretion afford to law enforcement. Chief Judge Kozinski, whose family escaped communist Romania when he was a boy, has experienced living under a totalitarian government.¹³² The emotions and psychological effects he experienced were very real: "I know what it's like to always be on your guard. . . . Everything you say or do will be judged or reported, and you'll have to explain yourself for things that are really innocent."¹³³

In *Pineda-Moreno*, Chief Judge Kozinski powerfully explained, "there's no hiding from the all-seeing network of GPS satellites that hover overhead, which never sleep, never blink, never get confused and never lose attention."¹³⁴ This point, though well taken, is debatable in the GPS context. A paranoid would-be criminal, bent on avoiding any detection, can muster at least some level of personal resistance against GPS technology. The criminal may be proactive about GPS and cell-site pinging: one need not buy a car with an on-board tracking system like OnStar or LoJack, one can purchase a temporary cellphone dissociated with any personal information, one can turn off one's cellphone and prevent tracking altogether, and one can routinely switch cars and check his undercarriage for tracking devices. In fact, GPS and satellite technology (like drones) were developed for military use, and then rapidly advanced by private industry development.¹³⁵ Still, nearly ten years after the first mobile phones were equipped with GPS, we do not have a clear Supreme Court precedent on digital surveillance law.

Chief Judge Kozinski's Orwellian hypothetical becomes more foreboding if we substitute "drones" for GPS technology. Augmented to reflect drones: "there's no hiding from the all-seeing network of [drones] that hover overhead, which never sleep, never blink, never get confused and never lose attention."¹³⁶ It follows that without radar, anti-aircraft missiles, hacking experience, and sophisticated military technology, an average civilian cannot practically counteract drone surveillance on the ground.¹³⁷ The only way to avoid being

131. *Pineda-Moreno*, 617 F.3d at 1120 (Kozinski, C.J., dissenting from denial of rehearing en banc).

132. See Andrew E. Taslitz, *The Fourth Amendment in the Twenty-First Century: Technology, Privacy, and Human Emotions*, 65 LAW & CONTEMP. PROBS. 125, 128 (2002).

133. See Matt Richtel, *To One Judge, Cybermonitors Bring Uneasy Memories*, N.Y. TIMES, Aug. 18, 2001, at A8 (interviewing then Judge Kozinski).

134. *Pineda-Moreno*, 617 F.3d at 1126 (Kozinski, C.J., dissenting from denial of rehearing en banc).

135. See SCOTT PACE ET AL., *THE GLOBAL POSITIONING SYSTEM: ASSESSING NATIONAL POLICIES* iii (1995).

136. See *Pineda-Moreno*, 617 F.3d at 1126 (Kozinski, C.J., dissenting from denial of rehearing en banc).

137. Some have suggested that hacking drones is a possibility. See Katia Moskvitch, *Are Drones the Next Targets for Hackers?*, BBC (Feb. 6, 2014), <http://www.bbc.com/future/story>

seen (or the thought of being seen) is to confine oneself to a bunker; as Professor Yale Kamisar put it, “Even crouching in a dark hole has some advantages over sitting in a glass house.”¹³⁸

For example, Brossart’s sons stood no chance against local law enforcement. Though the Brossarts were likely in the wrong, law enforcement was unencumbered by practical investigatory restraints. The North Dakota police used a drone to swiftly put a nail in the coffin of an alleged cow thief. In this case, it is tempting to excuse the police when provoked by armed civilians, but do we have adequate safeguards in place to prevent future disproportionate responses (or even discriminatory abuse and targeting)? If GPS surveillance is a “ripple” in the advancement of “technological assaults” on liberty, then drone surveillance must be the looming “tidal wave.”¹³⁹ Thus, Senator Paul’s fear of drone abuse can be framed in democratic terms: entrusting law enforcement with an optimal tool, prone to discretionary abuse.¹⁴⁰

To summarize, this Section concludes with an intuitive comparison of several different types of surveillance, and in turn isolates the factors that make drones problematic. Of course, these arguments may apply to any technology; however, as explained below, the point is that drones are currently the most advanced of those technologies and pose a novel legal issue. The key distinctions are efficiency (in cost and deployment) and the inability to counteract. First, drones are far more cost-effective than manned aircraft surveillance, especially through joint federal-local schemes. Further, they can be deployed on command. Satellite surveillance, on the other hand, is dependent on orbital position and constrained by staleness concerns.¹⁴¹ Cell phones and GPS can be turned off—if one does not carry the frequency emitter, they cannot be tracked. Drones can rely on traditional visual surveillance when location-based services are unavailable. Second, drones are surreptitious but

/20140206-can-drones-be-hacked. Others have attempted to design entire “drone-proof” cities. See Kelsey Atherton, *How to Design a Drone Proof City*, POPULAR SCI. (Feb. 4, 2013, 11:00 AM), <http://www.popsoci.com/technology/article/2013-02/how-design-drone-proof-city>. While these approaches are interesting, it seems unlikely that “jamm[ing] [a drone’s] communications,” “interrupt[ing] [a drone’s] secure data flow,”—Moskvitch, *supra*—or installing windows on your residence that “could detonate if a scanning drone is detected nearby,” would be in the realm of technological possibility for the everyday citizen. Atherton, *supra*.

138. Yale Kamisar, *The Wiretapping-Eavesdropping Problem: A Professor’s View*, 44 MINN. L. REV. 891 (1960).

139. See *Pineda-Moreno*, 617 F.3d at 1125 (Kozinski, C.J., dissenting from denial of rehearing en banc) (“[W]e may not shut our eyes to the fact that they are just advance ripples to a tidal wave of technological assaults on our privacy.”).

140. See *United States v. Jones*, 132 S. Ct. 945, 956 (2012) (Sotomayor, J., concurring) (“I would also consider the appropriateness of entrusting to the Executive, in the absence of any oversight from a coordinate branch, a tool so amenable to misuse, especially in light of the Fourth Amendment’s goal to curb arbitrary exercises of police power to and prevent ‘a too permeating police surveillance.’”). *But see infra* note 234.

141. On staleness concerns, see *People v. Mesa*, 535 P.2d 337, 337 (Cal. 1975) (“However, the information here was sufficiently timely to warrant such a belief; the reliable informant had personally observed the material to be seized on the premises to be searched within the previous six days.”).

difficult to counteract or resist. In fact, drones were designed to be undetectable. While the same could be said for GPS, cell-site pinging, satellites, and credit card transactions, those technologies are constrained by platform—subjects can turn off their cell phones, check their cars for tracking devices, or use cash. All of the other types of traditional surveillance are subject to practical constraints making them far less effective. Police must make a huge investment of their resources to target a particular group—at some point there is safety in numbers. One final efficiency concern is that drone technology encompasses GPS, satellite, and cell technology—and the whole is of a different order than the sum of its parts. Drone surveillance is an excessively powerful tool, entrusted to executive discretion devoid of constitutional safeguards.

II.

DRONES AND FOURTH AMENDMENT PRIVACY: AN ACCOUNT OF DOCTRINAL SHORTCOMINGS

*“Time works changes. . . . Subtler and more far-reaching means of invading privacy have become available to the Government.”*¹⁴²

Domestic drone surveillance is here. How will the Fourth Amendment apply to law enforcement drone investigations? This Section demonstrates that the Supreme Court’s current privacy-centric Fourth Amendment search framework leaves us without a path to follow. Moreover, it largely fails to check police discretion over aerial surveillance. The analysis proceeds in two steps. Part II.A catalogs the doctrinal divergence in the Court’s search inquiry post-*Jones*. Part II.B applies each doctrinal variation to drone surveillance technology.

A. Search Inquiry Post-Jones

The Fourth Amendment guarantees “[t]he right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures.”¹⁴³ Under current doctrine, “[o]fficial conduct that does not ‘compromise any legitimate interest in privacy’ is not a search subject to the Fourth Amendment.”¹⁴⁴ In turn, when a “search” occurs it “is presumptively unreasonable without a warrant.”¹⁴⁵ How and why does a so-called “legitimate interest in privacy” denote a search that triggers Fourth Amendment protections?

142. *Olmstead v. United States*, 277 U.S. 438, 473 (1928) (Brandeis, J., dissenting).

143. U.S. CONST. amend. IV.

144. *Illinois v. Caballes*, 543 U.S. 405, 408 (2005) (citing *United States v. Jacobsen*, 466 U.S. 109, 123 (1984)).

145. *See Kyllo v. United States*, 533 U.S. 27, 40 (2001).

*Jones*¹⁴⁶ stirred up debate and transformed the Fourth Amendment landscape. In its wake, commentators, practitioners, and judges have discerned three doctrinal variants for what triggers a search. First, Justice Scalia's majority opinion resurrected a common-law trespass test.¹⁴⁷ Second, the majority also reaffirmed the *Katz* reasonable expectation of privacy test for cases that do not involve physical trespass.¹⁴⁸ Third, Justice Sotomayor's and Justice Alito's concurrences flirted with the so-called mosaic theory,¹⁴⁹ which the D.C. Circuit relied on below.¹⁵⁰ Despite this parade of doctrinal variants, the Justices left open disconcerting questions for future cases that involve "electronic, as opposed to physical" contact.¹⁵¹ This Section does not attempt to decide which approach is correct. Instead, its goal is to reveal the limitations of the Court's privacy-centric theory. Moreover, this analysis demonstrates that the Court's doctrine excludes certain surveillance practices from Fourth Amendment scrutiny—despite a normative desire to regulate.

1. *The Olmstead and Jones Trespass Test*

The conventional account of the Fourth Amendment's doctrinal evolution begins during the Prohibition Era. In *Olmstead v. United States*,¹⁵² Chief Justice Taft held that a Fourth Amendment search does not occur without some physical intrusion or common-law trespass by government agents into the Amendment's expressly protected areas—persons, houses, papers, and effects.¹⁵³ Seattle bootlegger Roy Olmstead was convicted of violating the Volstead Act¹⁵⁴ with evidence obtained by Federal Prohibition Officers through

146. For a review of the facts of the case see *supra* note 13.

147. See *United States v. Jones*, 132 S. Ct. 945, 949 (2012) ("It is important to be clear about what occurred in this case: The Government physically occupied private property for the purpose of obtaining information. We have no doubt that such a physical intrusion would have been considered a 'search' within the meaning of the Fourth Amendment when it was adopted.")

148. See *id.* at 953 ("[W]e do not make trespass the exclusive test. Situations involving merely the transmission of electronic signals without trespass would remain subject to *Katz* analysis."); see also *Katz v. United States*, 389 U.S. 347, 361 (1967) (Harlan, J., concurring) ("[T]here is a twofold requirement, first that a person have exhibited an actual (subjective) expectation of privacy and, second, that the expectation be one that society is prepared to recognize as 'reasonable.'")

149. See Orin S. Kerr, *The Mosaic Theory of the Fourth Amendment*, 111 MICH. L. REV. 311, 320 (2012) ("[The mosaic theory] considers whether a set of nonsearches aggregated together amount to a search because their collection and subsequent analysis creates a revealing mosaic.")

150. See *United States v. Maynard*, 615 F.3d 544, 555–56 (D.C. Cir. 2010), *aff'd in part sub nom. United States v. Jones*, 132 S. Ct. 945 (2012).

151. See *Jones*, 132 S. Ct. at 962 (Alito, J., concurring).

152. 277 U.S. 438 (1928).

153. See *id.* at 466 ("Neither the cases we have cited nor any of the many federal decisions brought to our attention hold the Fourth Amendment to have been violated as against a defendant unless there has been an official search and seizure of his person, or such a seizure of his papers or his tangible material effects, or an actual physical invasion of his house 'or curtilage' for the purpose of making a seizure.")

154. National Prohibition Act, ch. 85, 41 Stat. 305 (1919) (repealed 1935). The Volstead Act, otherwise known as the National Prohibition Act of 1919, brought about the prohibition of intoxicating beverages.

wiretapping.¹⁵⁵ The search was valid because the wiretap was installed on the public lines *outside* of Olmstead's property.¹⁵⁶

Chief Justice Taft's textual, formalistic reading of the Amendment was long thought to be repudiated by *Katz*¹⁵⁷—Chief Justice Rehnquist confirmed as much.¹⁵⁸ But forty-six years after *Katz*, the *Jones* majority surprisingly held that the common-law trespass test was still good law. In *Jones*, there was a search because the GPS device was physically affixed to Jones's car absent a valid warrant. Justice Scalia decided *Jones* on narrow grounds by holding that: “for most of our history the Fourth Amendment was understood to embody a particular concern for government trespass upon the areas (‘persons, houses, papers, and effects’) it enumerates. *Katz* did not repudiate that understanding.”¹⁵⁹ Justice Scalia purported to use *property* law to create an “original” Fourth Amendment definition of trespass, which would in turn protect the “degree of *privacy* against government [intrusion] that existed when the Fourth Amendment was adopted.”¹⁶⁰ Citing Lord Camden's 1765 opinion in *Entick v. Carrington*¹⁶¹ as an expression “in plain terms [of] the significance of property rights in search-and-seizure analysis,” Justice Scalia pronounced that the Fourth Amendment “reflects [a] close connection . . . to common-law trespass, at least until the latter half of the 20th century.”¹⁶² Post-*Jones*, it is pertinent to consider not just the *Katz* standard, but also whether the government trespassed onto a protected area as a proxy for privacy.

2. The *Katz* Reasonable Expectation of Privacy Test

The Fourth Amendment “right to privacy” as we know it was officially born in the 1967 decision, *Katz v. United States*, but its roots go back as far as 1890.¹⁶³ In *Katz*, the Supreme Court held that the Fourth Amendment “protects

155. *Olmstead*, 277 U.S. at 455–69.

156. *Id.* at 464–65.

157. Justice Harlan is credited with creating the reasonable expectation of privacy test in his *Katz* concurrence. *Katz v. United States*, 389 U.S. 347, 361 (1967) (Harlan, J., concurring).

158. See *Rakas v. Illinois*, 439 U.S. 128, 143 (1978) (“In the course of repudiating the doctrine derived from *Olmstead v. United States*, . . . the Court in *Katz* held that capacity to claim the protection of the Fourth Amendment depends not upon a property right in the invaded place but upon whether the person who claims the protection of the Amendment has a legitimate expectation of privacy in the invaded place.” (citations omitted)).

159. See *United States v. Jones*, 132 S. Ct. 945, 950 (2012).

160. See *id.* at 950 (emphasis added).

161. *Entick v. Carrington*, (1765) 95 Eng. Rep. 807, 817 (K.B.) (“[O]ur law holds the property of every man so sacred, that no man can set his foot upon his neighbour's close without his leave; if he does he is a trespasser, though he does no damage at all; if he will tread upon his neighbour's ground, he must justify it by law.”).

162. *Jones*, 132 S. Ct. at 949.

163. Although the Justices did speak of “privacy” rights under the Fourth Amendment as early as 1949, there was no “reasonable expectation of privacy” standard until the era of the Warren Court. Compare *Wolf v. Colorado*, 338 U.S. 25, 27 (1949), with *Katz v. United States*, 389 U.S. 347, 361 (1967) (Harlan, J., concurring). Indeed, it seems the general historical consensus is that the Framers did

individual privacy against certain kinds of governmental intrusion.”¹⁶⁴ In that pivotal case, Justice Stewart—writing for the majority—infamously declared that “the Fourth Amendment protects people, not places.”¹⁶⁵ Applying this principle, the Court held that government agents electronically eavesdropping on a conversation in a phone booth “violated the privacy upon which [Katz] justifiably relied,” and thus constituted a search.¹⁶⁶ Together, these holdings came to mean that the Fourth Amendment protects a person’s reasonable expectation of *privacy*. The doctrinal formulation has taken on the twofold “reasonable expectation of privacy” requirement found in Justice Harlan’s concurrence—investigatory procedures only become “searches” for constitutional purposes when they intrude upon (1) a subjective expectation of privacy that is (2) objectively reasonable.¹⁶⁷

But why all this talk of “privacy”? Nowhere is privacy mentioned in the text of the Fourth Amendment. Warren and Brandeis’s seminal article, *The Right to Privacy*,¹⁶⁸ unmistakably influenced the Court’s opinion in *Katz*—indeed, it was cited in footnote six of the opinion.¹⁶⁹ In their article, Warren and Brandeis theorized an actionable right to privacy in response to “instantaneous photographs and newspaper enterprise[s] invad[ing] the sacred precincts of private and domestic life.”¹⁷⁰ The right to privacy was a “spiritual” right to be let alone, embodying solitude in the sacred domestic sphere.¹⁷¹ But despite Warren and Brandeis’s concern for privacy in public spaces, Justice Stewart made clear in *Katz* that the Fourth Amendment “cannot be translated into a general constitutional ‘right to privacy’” that Justice Brandeis had championed.¹⁷² In fact, the Court explicitly tempered the breadth of its newly established right, declaring that the Fourth Amendment “often ha[s] nothing to do with privacy at all.”¹⁷³ The Court has since then taken this to mean that a

not speak of search and seizure in the same “privacy” terms that we do today. See TASHLITZ, *supra* note 24, at 13.

164. *Katz*, 389 U.S. at 350 (emphasis added).

165. *Id.* at 351.

166. *Id.* at 353.

167. *Id.* at 361 (Harlan, J., concurring).

168. Warren & Brandeis, *supra* note 11.

169. See *Katz*, 389 U.S. at 350 n.6. Professor Sklansky has persuasively argued that anxieties over privacy from surveillance in public places, namely “about homosexuality and its policing[,] lay behind and helped to shape . . . *Katz v. United States*.” David Alan Sklansky, *A Postscript on Katz and Stonewall: Evidence from Justice Stewart’s First Draft*, 45 U.C. DAVIS L. REV. 1487, 1487 (2012). Specifically, Professor Sklansky notes the citation of a public sodomy case, *Smayda v. United States*, 352 F. 2d 251, 260 (9th Cir. 1965) (Browning, J., dissenting), in Justice Stewart and his clerk Laurence Tribe’s first draft of *Katz*. See *id.* at 1487–89, 1491; David Alan Sklansky, “*One Train May Hide Another*”: *Katz*, *Stonewall*, and the Secret Subtext of *Criminal Procedure*, 41 U.C. DAVIS L. REV. 875, 889–96 (2008).

170. Warren & Brandeis, *supra* note 11, at 195.

171. *Id.* at 193.

172. See *Katz*, 389 U.S. at 350.

173. *Id.* at 350; see also *id.* at 350 n.4 (“The average man would very likely not have his feelings soothed any more by having his property seized openly than by having it seized privately and

legal and theoretical distinction exists between general privacy and Fourth Amendment privacy.¹⁷⁴ Security in personal privacy is left to other specific provisions of the Constitution and the police power of the individual states.¹⁷⁵

But it is worth noting that, as a practical matter, the so-called private search,¹⁷⁶ third-party,¹⁷⁷ and public thoroughfare¹⁷⁸ doctrines have largely eviscerated any distinction between general privacy and Fourth Amendment privacy in the digital age.¹⁷⁹ Under current precedents, information made public is not entitled to Fourth Amendment protection, despite a subjective expectation of privacy.¹⁸⁰ Today this is even more troubling because citizens

by stealth. . . . And a person can be just as much, if not more, irritated, annoyed and injured by an unceremonious public arrest by a policeman as he is by a seizure in the privacy of his office or home.”)

174. See David Gray & Danielle Citron, *The Right to Quantitative Privacy*, 98 MINN. L. REV. 62, 69 (2013) (noting the theoretical and practical distinction between “information privacy law” and Fourth Amendment jurisprudence, despite a shared interest in defining and protecting privacy).

175. See *Katz*, 389 U.S. at 350 n.5 (“The First Amendment . . . imposes limitations upon governmental abridgment of freedom to associate and privacy in one’s associations. The Third Amendment’s prohibition against the unconsented peacetime quartering of soldiers protects another aspect of privacy from governmental intrusion. . . . [T]he Fifth Amendment too reflects the Constitution’s concern for . . . the right of each individual to a private enclave where he may lead a private life.” (internal quotations and citations omitted)); see also *id.* at 350–51 (“But the protection of a person’s *general* right to privacy—his right to be let alone by other people—is, like the protection of his property and of his very life, left largely to the law of the individual States.”).

176. Generally speaking, the Fourth Amendment only applies to an actor or agent of federal, state, or local government. Thus, where a private citizen acting on his own acquires evidence that the government later seeks to introduce at trial, the Fourth Amendment does not apply. See *People v. Wilkinson*, 163 Cal. App. 4th 1554, 1564 (2008).

177. Generally speaking, information conveyed to a third party that is then turned over to the police does not amount to a search within the meaning of the Fourth Amendment. See *Smith v. Maryland*, 442 U.S. 735, 743–44 (1979) (“This Court consistently has held that a person has no legitimate expectation of privacy in information he voluntarily turns over to third parties.”); *United States v. White*, 401 U.S. 745, 752 (1971) (“Inescapably, one contemplating illegal activities must realize and risk that his companions may be reporting to the police. . . . [T]he risk is his.”).

178. Generally speaking, what any member of the public may observe on public thoroughfares does not amount to a search within the meaning of the Fourth Amendment. See *United States v. Knotts*, 460 U.S. 276, 281 (1983) (“A person traveling . . . on public thoroughfares has no reasonable expectation of privacy in his movements from one place to another.”).

179. See *United States v. Jones*, 132 S. Ct. 945, 957 (2012) (Sotomayor, J., concurring) (“More fundamentally, it may be necessary to reconsider the premise that an individual has no reasonable expectation of privacy in information voluntarily disclosed to third parties. This approach is ill suited to the digital age, in which people reveal a great deal of information about themselves to third parties in the course of carrying out mundane tasks.” (citations omitted)).

180. The reasonable expectation of privacy test is still tethered to traditionally protected “places.” See *Katz*, 389 U.S. at 361 (Harlan, J., concurring) (“As the Court’s opinion states, ‘the Fourth Amendment protects people, not places.’ The question, however, is what protection it affords to those people. Generally, as here, the answer to that question requires reference to a ‘place.’”). In *United States v. Dunn*, the Court set out to clarify exactly how far the Fourth Amendment’s protection of “houses” extended beyond the home itself. 480 U.S. 294 (1987). In reaffirming a principle “as old as the common law,” the Court stated “the Fourth Amendment’s protection accorded ‘persons, houses, papers, and effects’ did not extend to open fields.” *Id.* at 300. Although curtilage is defined as the area immediately surrounding the home, the Fourth Amendment considers curtilage part of the home itself in extending its protections. See *Oliver v. United States*, 466 U.S. 170, 180 (1984) (citing 4 WILLIAM

willingly cede personal information to Google, Facebook, Twitter, and just about every digital-based service imaginable.¹⁸¹ These interactions seem to fall under the ambit of general legislative privacy regulations. But almost all twenty-first century interactions run through third-party service providers; arguably citizens cannot engage in the activities of daily life without doing so.¹⁸² Thus, while third-party activity does not directly involve governmental action, it may indirectly end up in the hands of law enforcement devoid of Fourth Amendment protection. For example, as lower federal court precedents stand, cell-site location data can be obtained from service providers without any judicial process.¹⁸³ It follows that any public protections offered by the reasonable expectation of privacy test were slowly eviscerated with the help of technological progress—as long as it remains true that “[w]hat a person knowingly exposes to the public, even in his own home or office, is not a subject of Fourth Amendment protection.”¹⁸⁴ But if the public aspect of the reasonable expectation of privacy test is a moving standard that depends on technological progress, then the ease with which police may abuse discretion might be a more important consideration in regard to rapidly developing surveillance technologies.

BLACKSTONE, COMMENTARIES 225). The fundamental distinction between curtilage and open fields is that curtilage harbors the “intimate activity associated with the ‘sanctity of [the] home and the privacies of life.’” *Dunn*, 480 U.S. at 300. “[T]he proximity of the area claimed to be curtilage to the home, whether the area is included within an enclosure surrounding the home, the nature of the uses to which the area is put, and the steps taken by the resident to protect the area from observation by people passing by.” *Id.* at 301. In short, one has a Fourth Amendment expectation of privacy in the home and its curtilage, but none in open fields.

181. This privatization of law enforcement surveillance has been called the “Little Brother” phenomenon. *See Dobson & Fisher, supra* note 25, at 311 (“The panoptic conundrum . . . is that the principle of open government clashes with the right to privacy whenever personal information is collected and held by government. The conundrum is even greater when personal information is held by corporations. In fact, governments may not be the primary threat but, rather, corporations and individuals, not just one ‘Big Brother’ but many overbearing ‘Little Brothers.’”); *see also* Chris Jay Hoofnagle, *Big Brother’s Little Helpers: How ChoicePoint and Other Commercial Data Brokers Collect and Package Your Data for Law Enforcement*, 29 N.C. J. INT’L L. & COM. REG. 595 (2004).

182. *See Smith v. Maryland*, 442 U.S. 735, 749–50 (1979) (Marshall, J., dissenting) (“Privacy is not a discrete commodity, possessed absolutely or not at all. Those who disclose certain facts to a bank or phone company for a limited business purpose need not assume that this information will be released to other persons for other purposes. . . . By contrast here, unless a person is prepared to forgo use of what for many has become a personal or professional necessity, he cannot help but accept the risk of surveillance.”).

183. *See United States v. Skinner*, 690 F.3d 772, 777 (6th Cir. 2012) (“There is no Fourth Amendment violation because Skinner did not have a reasonable expectation of privacy in the data given off by his voluntarily procured pay-as-you go cell phone.”).

184. *See Katz*, 389 U.S. at 351.

3. *The Maynard and Jones Mosaic Theory*

In the 2010 case, *United States v. Maynard*, the U.S. Court of Appeals for the D.C. Circuit applied an unfamiliar Fourth Amendment analysis.¹⁸⁵ Under the *Katz* standard, it was well settled that “[a] person traveling . . . on public thoroughfares has no reasonable expectation of privacy in his movements from one place to another.”¹⁸⁶ However, the D.C. Circuit held that around-the-clock GPS tracking of a suspect’s movements on public roads for twenty-eight days¹⁸⁷ “aggregated” to a search within the meaning of the Fourth Amendment.¹⁸⁸ The premise was simple: in certain circumstances, government conduct should be “considered as a collective whole rather than in isolated steps” to determine whether it amounted to a search.¹⁸⁹

Judge Ginsburg succinctly identified the rationale: “the whole of a person’s movements over the course of a month is not actually exposed to the public because the likelihood a stranger would observe all those movements is not just remote, it is essentially nil.”¹⁹⁰ In other words, Judge Ginsburg was addressing the loophole in *Katz*, created by technological progress and the public thoroughfares doctrine—a right to privacy in public *movement*.¹⁹¹ Courts can protect privacy rights, according to the D.C. Circuit, by holding that the collective sum of public surveillance, if pervasive enough, can become such an invasive affront to an individual’s *privacy* that constitutional protections kick in.¹⁹² The D.C. Circuit’s touchstone for analysis was quantitative, but the court drew no clear temporal line.¹⁹³

The mosaic theory departs from established search doctrine. Traditionally, Fourth Amendment search analysis has been conceptualized as a sequential inquiry.¹⁹⁴ As Professor Orin Kerr has described it, “analyzing whether a

185. See 615 F.3d 544, 555–56 (D.C. Cir. 2010), *aff’d in part sub nom.* *United States v. Jones*, 132 S. Ct. 945 (2012); see also U.S. Dep’t of Justice v. Reporters Comm. for Freedom of Press, 489 U.S. 749 (1989); *CIA v. Sims*, 471 U.S. 159 (1985); *J. Roderick MacArthur Found. v. FBI*, 102 F.3d 600 (D.C. Cir. 1996); *People v. Weaver*, 909 N.E.2d 1195, 1199 (N.Y. 2009).

186. See *supra* note 178.

187. *Maynard*, 615 F.3d at 558.

188. *Id.* at 555–56.

189. See Kerr, *supra* note 149, at 320.

190. *Maynard*, 615 F.3d at 560.

191. See Helen Nissenbaum, *Toward an Approach to Privacy in Public: Challenges of Information Technology*, 7 ETHICS & BEHAV. 207, 212–13 (1997).

192. *Maynard*, 615 F.3d at 560 (“It is one thing for a passerby to observe or even to follow someone during a single journey as he goes to the market or returns home from work. It is another thing entirely for that stranger to pick up the scent again the next day and the day after that, week in and week out, dogging his prey until he has identified all the places, people, amusements, and chores that make up that person’s hitherto private routine.”).

193. *Id.* at 563 (“Society recognizes Jones’s expectation of privacy in his movements over the course of a month as reasonable, and the use of the GPS device to monitor those movements defeated that reasonable expectation.”); *id.* at 566 (“This case does not require us to, and therefore we do not, decide whether a hypothetical instance of prolonged visual surveillance would be a search subject to the warrant requirement of the Fourth Amendment.”).

194. See Kerr, *supra* note 149, at 315.

search has occurred requires a frame-by-frame dissection of the scene . . . starting with the ‘initial’ step and then *separately* analyzing the ‘subsequent’ steps.”¹⁹⁵ The D.C. Circuit’s approach, on the other hand, takes a quantitative view. As the theory goes, “the whole is something different than the sum of its parts”:¹⁹⁶ prolonged surveillance of a person’s movements may contravene a reasonable expectation of privacy by revealing an intimate picture of a person’s life.¹⁹⁷ “A reasonable person does not expect anyone to monitor and retain a record of [her] every . . . movement”; she expects the aggregate picture of her movements to “remain ‘disconnected and anonymous.’”¹⁹⁸ Society, in turn, recognizes that expectation of privacy as reasonable.¹⁹⁹ Thus, under the D.C. Circuit’s conception, government surveillance of a trip on public roads would not *itself* violate the Fourth Amendment, but continuous and prolonged surveillance would.

Commentators and jurists have criticized the mosaic theory of the Fourth Amendment as ahistorical, contrary to precedent, unsound in theory, and unworkable in practice.²⁰⁰ Reviewing the D.C. Circuit in *Jones*, Justice Scalia’s majority opinion resolved the case on the above-noted trespass test, refusing to “rush[] forward” and consider the mosaic theory.²⁰¹ Still, five Justices (a potential majority with Justices Alito, Ginsburg, Breyer, Kagan, and Sotomayor) were willing to engage with an aggregation-based concept—that some quantum of surveillance is simply too much. Justice Sotomayor’s and Justice Alito’s concurrences evinced some judicial willingness to make a constitutional change to search and seizure law in the face of pervasive surveillance technology—though for slightly different reasons.²⁰²

Justice Alito (joined by Justices Ginsburg, Breyer, and Kagan) rejected the trespass approach and expressed concern with the “particularly vexing problems in cases involving surveillance that is carried out by making electronic, as opposed to physical, contact with the item to be tracked.”²⁰³ Justice Alito’s concurrence, in essence, took issue with (1) Justice Scalia’s disregard for *stare decisis*,²⁰⁴ (2) the likelihood of incongruent results,²⁰⁵ (3)

195. *Id.* at 316 (emphasis added).

196. *See Maynard*, 615 F.3d at 561 (quoting KURT KOFFKA, PRINCIPLES OF GESTALT PSYCHOLOGY 176 (1935)).

197. *Id.* at 562.

198. *Id.* at 563.

199. *Id.*

200. *See Kerr*, *supra* note 149, at 314–15.

201. *United States v. Jones*, 132 S. Ct. 945, 954 (2012).

202. *See Kerr*, *supra* note 149, at 326–27.

203. *Jones*, 132 S. Ct. at 962 (Alito, J., concurring).

204. *Id.* at 961 (“Disharmony with a substantial body of existing case law is only one of the problems with the Court’s approach in this case. . . . [T]he Court’s reasoning largely disregards what is really important . . . and instead attaches great significance to something that most would view as relatively minor Attaching such an object is generally regarded as so trivial that it does not provide a basis for recovery under modern tort law.” (citations omitted)).

the lack of practical restraints on surreptitious surveillance,²⁰⁶ and (4) how technology can change what society accepts as reasonable.²⁰⁷ Justice Alito's solution relied explicitly on the data aggregation rationale while working within the reasonable expectations model. He drew a distinction between long-term and short-term public surveillance—with long-term being unreasonable—and relied on judicial policing of the boundary under the totality of the circumstances. However, Justice Alito stopped short of deciding where exactly a boundary should be drawn in the future.²⁰⁸

Justice Sotomayor's concurrence, on the other hand, began by embracing the trespass approach as a “longstanding protection . . . inherent in items of property that people possess or control.”²⁰⁹ But like Justice Alito, she was troubled by “electronic or other novel modes of surveillance that do not depend upon physical invasion.”²¹⁰ Justice Sotomayor's approach went a step further than Alito's, considering several factors discussed in Part I: (1) the wealth of detail collected over intimate matters,²¹¹ (2) exceedingly resource-efficient collection of data by law enforcement,²¹² (3) the specter of governmental

205. *Id.* at 962. (“[T]he Court's approach leads to incongruous results. If the police attach a GPS device to a car and use the device to follow the car for even a brief time, under the Court's theory, the Fourth Amendment applies. But if the police follow the same car for a much longer period using unmarked cars and aerial assistance, this tracking is not subject to any Fourth Amendment constraints.”).

206. *Id.* at 964 (“But the use of longer term GPS monitoring in investigations of most offenses impinges on expectations of privacy. For such offenses, society's expectation has been that law enforcement agents and others would not—and indeed, in the main, simply could not—secretly monitor and catalogue every single movement of an individual's car for a very long period.”).

207. *Id.* at 962 (“In addition, the *Katz* test rests on the assumption that this hypothetical reasonable person has a well-developed and stable set of privacy expectations. But technology can change those expectations. Dramatic technological change may lead to periods in which popular expectations are in flux and may ultimately produce significant changes in popular attitudes. . . . [E]ven if the public does not welcome the diminution of privacy that new technology entails, they may eventually reconcile themselves to this development as inevitable.”).

208. *Id.* at 964 (“The best that we can do in this case is to . . . ask whether the use of GPS tracking in a particular case involved a degree of intrusion that a reasonable person would not have anticipated. Under this approach, relatively short-term monitoring of a person's movements on public streets accords with expectations of privacy that our society has recognized as reasonable. . . . We need not identify with precision the point at which the tracking of this vehicle became a search, for [here] the line was surely crossed before the 4-week mark.”).

209. *Id.* at 955 (Sotomayor, J., concurring).

210. *Id.*

211. *Id.* (“GPS monitoring generates a precise, comprehensive record of a person's public movements that reflects a *wealth of detail* about her familial, political, professional, religious, and sexual associations.” (emphasis added) (citing *People v. Weaver*, 909 N.E.2d 1195, 1199 (N.Y. 2009))).

212. *Id.* at 956. (“And because GPS monitoring is cheap in comparison to conventional surveillance techniques and, by design, proceeds surreptitiously, it evades the ordinary checks that constrain abusive law enforcement practices: ‘limited police resources and community hostility.’” (citing *Illinois v. Lidster*, 540 U.S. 419, 426 (2004))).

abuse,²¹³ and (4) the chilling effects on citizens' autonomy by pervasive surveillance.²¹⁴

While Justice Sotomayor's concurrence also treated the mosaic theory as a special application of the *Katz* test—assessing society's expectations in the digital age—it was different in two respects. First, Justice Sotomayor embraced a democratic rationale (that is, abuse of discretion and chilling effects) for the Fourth Amendment.²¹⁵ Second, she recognized that democratic concerns arise “in cases involving *even short-term* monitoring.”²¹⁶ Ultimately, her solution was to grapple with the public thoroughfare doctrine and third-party doctrines,²¹⁷ finding that in their present state, these are “ill suited to the digital age.”²¹⁸ While the exact contours of the mosaic theory are far from clear, the *Jones* plurality “suggest[s] that a majority of the Court is ready to embrace some form of the D.C. Circuit's mosaic theory.”²¹⁹

B. Shortcomings: From Trespass to Aggregation

In *Jones*, the Supreme Court unanimously found that the GPS surveillance at issue constituted a search within the meaning of the Fourth Amendment—but the justifications were hotly contested. The majority's narrow “trespass” holding managed to obscure the reasonable expectation of privacy debate. That is, the remaining Justices would have had to either abrogate the public thoroughfares doctrine or adopt the mosaic theory in order to find the four-week-long surveillance unconstitutional. This Section argues that, of the competing values at issue, the more relevant problem with surveillance of this sort is abuse of police discretion, not invasion of privacy. This Section then uses the facts of *Brossart* to flesh out that discrepancy in the Court's current search doctrine and demonstrates that police discretion over drone surveillance

213. *Id.*

214. *Id.* (“The net result is that GPS monitoring—by making available at a relatively low cost such a substantial quantum of intimate information about any person whom the Government, in its unfettered discretion, chooses to track—may ‘alter the relationship between citizen and government in a way that is inimical to democratic society.’” (citing *United States v. Cuevas-Perez*, 640 F.3d 272, 285 (7th Cir. 2011) (Flaum, J., concurring))).

215. *See supra* notes 213–15 and accompanying text.

216. *Jones*, 132 S. Ct. at 955 (Sotomayor, J., concurring) (emphasis added).

217. *See supra* notes 176–78.

218. *See Jones*, 132 S. Ct. at 957 (Sotomayor, J., concurring) (“I would not assume that all information voluntarily disclosed to some member of the public for a limited purpose is, for that reason alone, disentitled to Fourth Amendment protection.” (citing *Smith v. Maryland*, 442 U.S. 735, 749 (1979) (Marshall, J., dissenting))). This approach would be similar to the New Jersey Supreme Court's interpretation of the New Jersey constitution's search and seizure protections. For example, the New Jersey Supreme Court has interpreted the state's counterpart to the Fourth Amendment to “protect[] an individual's privacy interest in the subscriber information he or she provides to an Internet service provider.” *State v. Reid*, 945 A.2d 26, 33–34 (N.J. 2008). The federal Constitution, as interpreted by the United States Supreme Court, provides no such third-party protection, *see, e.g.*, *Smith v. Maryland*, 442 U.S. 735, 743–44 (1979), despite the New Jersey constitution's nearly identical text. *Compare* N.J. CONST. art. I, ¶ 7, *with* U.S. CONST. amend. IV.

219. Kerr, *supra* note 149, at 326.

would largely go unregulated, despite the normative appeal of regulation. That is, courts would ignore most drone surveillance because the Court has declared privacy as its sole guiding principle, not because drone surveillance is inherently unworthy of Fourth Amendment scrutiny.

1. Trespass and Drones

Perhaps the utility of the trespass test is its simplicity: it provides no protection from aerial surveillance across the board. As mentioned above, the facts of *Brossart* do not suggest any physical intrusion.²²⁰ There, the Predator drone was surreptitiously flying between fifteen and twenty thousand feet and observed—for a few moments—Brossart’s sons riding off-road vehicles. The surveillance was not pervasive and the drone did not interfere with any use of property. The trespass test would not provide protection.

When applying the *Jones* majority’s rationale to the facts of *Brossart*, this result makes sense. The trespass test is narrowly tailored to a physical trespass on private property—this monist inquiry does not grapple with the complexities of drone surveillance. However pervasive, the extent of surveillance does not matter. The public thoroughfare distinction is also irrelevant. In fact, it does not even matter if a drone or a manned aircraft gathered the surveillance. Practically speaking, there is no claim for trespass against aircrafts flying tens of thousands of feet above private property.²²¹ Further, those same aircraft

220. See *supra* Part.I.A.

221. Consider a brief digression. How might one craft a physical trespass challenge (on persons, houses, papers, and effects) that applies to aerial surveillance? Trespass by air and the *ad coelum* rule (“ownership of the land extends to the periphery of the universe”)? At early common law, trespass in airspace was an actual issue—whether actionable or not. See generally HAROLD D. HAZELTINE, *THE LAW OF THE AIR* (1911). However, pre-*Jones* scholars justifiably rejected the idea that a citizen could rely on the *ad coelum* rule to challenge drone surveillance. See, e.g., Vacek, *supra* note 10, at 677.

But *could* a drone trespass by air? In following Justice Scalia’s logic and conceding that the law of trespass “at the time the Constitution was adopted, [was] considered to be ‘the true and ultimate expression of constitutional law’ with regard to search and seizure,” *United States v. Jones*, 132 S. Ct. 945, 949 (2012), the *ad coelum* rule might apply as a rule of eighteenth-century common law. See generally Note, *Trespass by Airplane*, 32 HARV. L. REV. 569 (1919).

However, in *United States v. Causby* the Court opined that the ancient *ad coelum* rule has “no place in the modern world” as a rule of absolute exclusion. 328 U.S. 256, 261 (1946). Practically speaking, the *ad coelum* rule would prove unworkable in the modern age of commercial flight. Further, the U.S. government has exclusive sovereignty over the airspace of the United States and citizens have a public right of transit through that navigable airspace. 49 U.S.C. § 40103(a)(1)–(2) (2012). But despite contradicting the antiquated property right, the Court still held that “if the flights over [Causby’s] property rendered it uninhabitable, there would be a taking compensable under the Fifth Amendment.” *Causby*, 328 U.S. at 261. The Court found it immaterial that the aircraft never touched Causby’s property, holding that full enjoyment of land extends to direct and “immediate reaches of the enveloping atmosphere.” *Id.* at 262, 264 (emphasis added). The true inquiry was whether the government’s trespass conduct destroyed beneficial ownership of the land. *Id.* at 266. It is unlikely that such an argument would survive when dealing with a Predator drones that fly at fifteen to twenty thousand feet. However, interesting questions remain for smaller hobbyist drones that can

make no actual physical occupation of private property: as such, there would be no search under the *Jones* majority's rule.²²² Thus, only the *Katz* test and mosaic theory can grapple with drone surveillance.

2. Reasonable Expectation of Privacy and Drones

The *Katz* reasonable expectation of privacy test leads to different results depending on the particulars of the drone surveillance at issue. Of the three search inquiries, the reasonable expectation of privacy standard was originally the most flexible. The Justices simply asked whether the suspect had a subjective expectation of privacy, and whether society was willing to accept that expectation as objectively reasonable. However, as time went on, the Court began to fill in the gaps. Current precedents frame the inquiry through analogy. Thus, while there is no precedent squarely addressing drone surveillance, there are multiple lines of decisions to consider, such as the curtilage cases, the flyover cases, and the high technology cases.

The Supreme Court's precedents provide three basic questions to ask. First, did the surveillance occur in public, or did it occur in or around the home?²²³ The *Katz* test provides no protection in open fields but affords the most protection to the home and its curtilage.²²⁴ However, even assuming surveillance targets the home, it may still fall short of being a search. Under the reasonable expectation of privacy standard, "[t]he Fourth Amendment protection of the home has never been extended to require law enforcement officers to shield their eyes when passing by a home on public thoroughfares."²²⁵

Accordingly, the Court's second question is whether the surveillance occurred by way of a public thoroughfare. Here, the Court has opined that while a suspect may have a subjective expectation of privacy in the airspace above her home, an objective expectation of privacy from aerial surveillance is unjustified.²²⁶ As Chief Justice Burger summarized in *California v. Ciraolo*,²²⁷

operate immediately above a suspect's property, well below four hundred feet. The Court has not hinted at whether such a challenge would be plausible.

222. See *Jones*, 132 S. Ct. at 949 ("It is important to be clear about what occurred in this case: The Government physically occupied private property for the purpose of obtaining information.")

223. See *supra* note 180.

224. On open fields, see *United States v. Dunn*, 480 U.S. 294, 307 (1987) ("[T]he Fourth Amendment protects the home and its curtilage, but not the 'open fields.'"). On the related concept of flyovers, see *Kyllo v. United States*, 533 U.S. 27, 31 (2001) ("With few exceptions, the question whether a warrantless search of a home is reasonable and hence constitutional must be answered no." (internal citations omitted)).

225. *Kyllo*, 533 U.S. at 32 (citing *California v. Ciraolo*, 476 U.S. 207, 213 (1986)).

226. See, e.g., *Florida v. Riley*, 488 U.S. 445 (1989) (holding that the Fourth Amendment was not implicated when police flew by helicopter four hundred feet over defendant's partially covered greenhouse located next to his mobile home and made naked-eye observations of marijuana plants inside, because a member of the public could have similarly positioned himself in an aircraft and made the same observations through the uncovered sections of the roof); *Dow Chem. Co. v. United States*, 476 U.S. 227 (1986) (holding that where a surveillance camera was used to observe the open areas of

“in an age where private and commercial flight in the public airways is routine . . . [t]he Fourth Amendment simply does not require the police traveling in the public airways at [one thousand feet] to obtain a warrant in order to observe what is visible to the naked eye.”²²⁸ The principle was reaffirmed by a plurality in *Florida v. Riley*:²²⁹ Because the officer’s aerial observations were made from legally navigable airspace, the expectation of privacy was not one society was prepared to honor.²³⁰

Despite this seemingly wide-open exception for aerial surveillance, there is a third question the Court would ask: Are details of the home—previously unknowable without physical intrusion—explored with technology not in general public use?²³¹ Upon recognizing that “police technology [can] erode

an industrial facility, no search occurred); *California v. Ciraolo*, 476 U.S. 207, 215 (1986) (holding that naked-eye observations of a fenced-in backyard deemed within the home’s curtilage from an aircraft at one thousand feet did not constitute a search because, “[i]n an age where private and commercial flight in the public airways is routine, it is unreasonable for respondent to expect that his marijuana plants were constitutionally protected from such observation”).

227. In *California v. Ciraolo*, law enforcement officers secured a private plane and flew over Ciraolo’s home and backyard looking to corroborate a tip that he was growing marijuana. 476 U.S. at 209. Although Ciraolo’s yard was enclosed by two fences, the trained marijuana detection officers were able to recognize the illegal plants from one thousand feet overhead. *Id.* In holding that this surveillance did not amount to a search, the Court accepted that Ciraolo had a subjective expectation of privacy in his crop and that the crop was located in the curtilage of the home (thus due the same protection afforded to the home). *Id.* at 211, 213. However, Ciraolo’s claim foundered on the objective expectation of privacy. According to the Court, the public thoroughfare rationale of the Fourth Amendment made Ciraolo’s expectation of privacy one that society was not “prepared to honor.” *Id.* at 214. In holding that the officers had a right to conduct surveillance from this vantage point, the Court invoked the tenet that “[t]he Fourth Amendment protection of the home has never been extended to require law enforcement officers to shield their eyes when passing by a home on public thoroughfares.” *Id.* at 213. Justice Burger relied on three factors in analogizing the domestic airspace to public thoroughfares: (1) the surveillance took place in public navigable airspace; (2) the surveillance was physically nonintrusive; and (3) any member of the (commercial or private) public flying overhead could have seen the plants with a naked eye. *Id.* at 213–14.

228. *Id.* at 215.

229. *Florida v. Riley* presents a similar factual scenario and analysis, though splintered in a plurality. *See* 488 U.S. 445. In that case, a law enforcement officer investigated an anonymous tip by circling a helicopter over Riley’s mobile home and adjacent greenhouse. *Id.* at 448. Two panels on the greenhouse roof were missing, and the officer was able to peer through, with his naked eye, to see marijuana growing inside. *Id.* These facts were used to obtain a warrant, which subsequently lead to Riley’s arrest. *Id.* at 448–49. Easily disposing of the case by citing *Ciraolo*, the plurality took the opportunity to note in dicta that certain types of “inspection of the curtilage of a house from an aircraft” could violate the Fourth Amendment. *Id.* at 450–51. The plurality indicated that interference with normal use, observation of intimate details of the home, undue noise, wind, dust, or threat of injury *might* cause the Court to find a Fourth Amendment violation. *See id.* at 452. Justice O’Connor’s concurring fifth vote placed a gloss on the plurality opinion to downplay reliance on FAA regulations and reaffirmed the principle that “public air travel . . . is a sufficiently routine part of modern life that it is unreasonable for persons on the ground to expect that their curtilage will not be observed from the air.” *Id.* at 453.

230. *Id.* at 451.

231. *See Kylo v. United States*, 533 U.S. 27, 34 (2001) (holding that the police investigation using a thermal imager—i.e., a sense-enhancing technology that was not publicly available at the

the privacy guaranteed by the Fourth Amendment,” the Court in *Kyllo v. United States* took the “long view” by holding that a search from a public vantage point with a thermal imager was proscribed absent a warrant.²³² The Court held that when the government employs a “device that is not in general public use, to explore details of the home that would previously have been unknowable without physical intrusion, the surveillance is a ‘search’ and is presumptively unreasonable without a warrant.”²³³ To summarize, the reasonable expectation of privacy test generally provides no protection from public vantage points but may provide some protection for certain details of the home discovered by generally unavailable technology.²³⁴

Applying these rules to the drone problem is no easy task—drone technology is highly variable. Despite open questions of law, if presented with the facts in *Brossart*, the Court would likely find no objective reasonable expectation of privacy from the aerial surveillance. First, *Brossart* had already been arrested and a search warrant had been obtained before the Predator was dispatched—reducing his legitimate claim to privacy.²³⁵ Second, the Court would likely classify this type of aerial surveillance as having been conducted from a public vantage point. The Predator was likely flying between ten and fifteen thousand feet—the best imaging altitude—²³⁶when it acquired the *Brossarts*’ positions. This is probably within a reasonable, navigable airspace (assuming an FAA certificate of authorization was granted).²³⁷ Third, even

time—to collect any information regarding interior of the home that could not otherwise have been obtained without physical intrusion into a constitutionally protected area constitutes a “search”).

232. See *id.* at 34, 40.

233. *Id.* (emphasis added). This rationale was alluded to by Chief Justice Burger in *Dow Chemical*, where the Court noted that “surveillance of private property by using highly sophisticated surveillance equipment not generally available to the public . . . might be constitutionally proscribed absent a warrant.” See *Dow Chem. Co. v. United States*, 476 U.S. 227, 238 (1986). In that case, however, *Dow Chemical*’s industrial facilities did not reveal intimate details and thus were not deserving of the protections afforded to the home. *Id.*

234. The Supreme Court has previously hinted that under the reasonable expectation of privacy test, “dragnet-type law enforcement practices” like “twenty-four hour surveillance of any citizen . . . without judicial knowledge or supervision” may call for the application of “different constitutional principles.” See *United States v. Knotts*, 460 U.S. 276, 283–84 (1983). However, the *Knotts* Court was quick to note that it has “never equated police efficiency with unconstitutionality,” instead finding that “reality hardly suggests abuse.” *Id.* (internal quotations omitted). Thus, it seems that under the conventional reasonable expectation of privacy precedents, the mere specter of abuse will not suffice.

235. Cf. *United States v. Robinson*, 414 U.S. 218, 235 (1973) (“A custodial arrest of a suspect based on probable cause is a reasonable intrusion under the Fourth Amendment; that intrusion being lawful, a search incident to the arrest requires no additional justification. It is the fact of the lawful arrest which establishes the authority to search, and we hold that in the case of a lawful custodial arrest a full search of the person is not only an exception to the warrant requirement of the Fourth Amendment, but is also a ‘reasonable’ search under that Amendment.”).

236. GERTLER, *supra* note 2, at 34.

237. See ALISSA M. DOLAN & RICHARD M. THOMPSON II, CONG. RESEARCH SERV., R42940, INTEGRATION OF DRONES INTO DOMESTIC AIRSPACE: SELECTED LEGAL ISSUES 2–4 (2013) (explaining FAA regulations of navigable airspace and current FAA regulation of drones); RICHARD

though the Court might make a *Kyllo*-like distinction by treating hobbyist drones and military grade technology differently—one could argue that hobbyist drones are generally available to the public, while the Predator and ARGUS are not—Brossart’s sons were in the open fields of the property when the Predator drone flew overhead. It seems likely that riding off-road vehicles in open fields would not be held to harbor intimately private activity.

On the other hand, the *Brossart* facts are distinguishable from the run of cases because there was not a law enforcement officer physically present in the aircraft. *Ciraolo* and *Riley* both allowed “naked eye” aerial observations directed at the home.²³⁸ *Dow Chemical* allowed a “commercial camera commonly used in mapmaking” directed at commercial property.²³⁹ *Kyllo* prohibited a thermal probe that revealed heat signatures emanating from a home.²⁴⁰ None of these cases dealt with remotely operated imaging cameras. In all likelihood, the Supreme Court would only find a search if the police used the generally unavailable Predator drone to discover certain details of the home that were previously unknowable without physical entry.²⁴¹ It should be evident from this brief discussion that a basic application of *Ciraolo*, *Riley*, and *Kyllo* weigh against finding a search in Brossart’s case, but this discussion also makes clear that the outcome is highly complex, counterintuitive, and contingent on the precise facts of the case at issue.

3. Mosaic Theory and Drones

Under the mosaic theory, only long-term surveillance in public would be considered a search. In fact, the mosaic theory has only been applied successfully in two cases: *People v. Weaver* and *United States v. Maynard*.²⁴² Both cases involved affixing a physical GPS device to a vehicle. The mosaic theory has only been applied to GPS surveillance cases because it relies on a

M. THOMPSON II, CONG. RESEARCH SERV., R42701, DRONES IN DOMESTIC SURVEILLANCE OPERATIONS: FOURTH AMENDMENT IMPLICATIONS AND LEGISLATIVE RESPONSES 3 (2013) (explaining that DHS has been authorized to fly domestic drones).

238. See *Florida v. Riley*, 488 U.S. 445, 448 (1989); *California v. Ciraolo*, 476 U.S. 207, 213 (1986).

239. *Dow Chem. Co. v. United States*, 476 U.S. 227, 238 (1986).

240. See *Kyllo v. United States*, 533 U.S. 27, 40 (2001).

241. The Court would not likely find a search if the police used generally unavailable Predator drones to discover conduct in “public,” or if the police used generally available hobbyist drones to discover details of the home from public vantage points. For example, commentators have wondered whether thermal imaging has now become so generally available that *Kyllo* allows the police to use thermal imaging surveillance to discover details of the home from public vantage points. See Orin Kerr, *Can the Police Now Use Thermal Imaging Devices Without a Warrant? A Reexamination of Kyllo in Light of the Widespread Use of Infrared Temperature Sensors*, VOLOKH CONSPIRACY (Jan. 4, 2010, 12:33 PM), <http://www.volokh.com/2010/01/04/can-the-police-now-use-thermal-imaging-devices-without-a-warrant-a-reexamination-of-kyllo-in-light-of-the-widespread-use-of-infrared-temperature-sensors>.

242. See *United States v. Maynard*, 615 F.3d 544 (D.C. Cir. 2010), *aff’d in part sub nom. United States v. Jones*, 132 S. Ct. 945 (2012); *People v. Weaver*, 909 N.E.2d 1195 (N.Y. 2009).

substantial period of continuous surveillance or data aggregation in public movements.

How would the mosaic theory apply to drone surveillance?²⁴³ This analysis uses the D.C. Circuit's approach to the mosaic theory, as it is the clearest exposition so far. In *Maynard*, the court held that twenty-eight days of continuous GPS surveillance of an individual on public thoroughfares aggregated to a search, but a single "frame" of surveillance would not.²⁴⁴ The rationale was that the whole is something different than the sum of its parts—long-term surveillance contravenes society's expectation of privacy in the whole of our movements.²⁴⁵ However, the court did not provide a framework for drawing the line between short-term and long-term surveillance. In a Justice Stewart-like move,²⁴⁶ the court left that question for another day.²⁴⁷ Applying these rules to the drone problem depends on the duration of the surveillance: "snapshots" would not amount to a search, while "pervasive" surveillance would. In *Brossart*, the Predator drone was only aloft for a short period of time, nowhere near twenty-eight days. Under the D.C. Circuit's logic, there would be no problem with this kind of surveillance. Rather, the mosaic theory would find drone surveillance a search where a system like ARGUS—designed to capture a 24/7 persistent feed—aggregated the sum of an individual's movements.

III.

THE FOURTH AMENDMENT: A FORGOTTEN SOURCE OF PERSONAL LIBERTY

*"It is not the breaking of his doors, and the rummaging of his drawers, that constitutes the essence of the offense; but it is the invasion of his indefeasible right of personal security, personal liberty, and private property [that violates the Fourth Amendment]."*²⁴⁸

This Comment has made multiple arguments. Part I demonstrated that there are good social reasons to believe that the Fourth Amendment should regulate the discretionary use of drone surveillance through, at least, a warrant requirement. Part II demonstrated that the Supreme Court's current theory of Fourth Amendment searches is underinclusive as applied to drone surveillance.

243. Orin Kerr has criticized the mosaic theory's uncertain and difficult administration, theoretically unsound probabilistic approach, and potential interference with statutory solutions. See Kerr, *supra* note 149, at 343–50.

244. *Maynard*, 615 F.3d at 560–61. *But see* *United States v. Jones*, 132 S. Ct. 945, 955 (2012) (Sotomayor, J., concurring) (noting that these concerns arise even in the case of short-term monitoring).

245. *Maynard*, 615 F.3d at 561 n.* ("The colloquialism that 'the whole is greater than the sum of its parts' is not quite correct. 'It is more correct to say that the whole is something different than the sum of its parts.'" (citation omitted)).

246. *Cf. Jacobellis v. State of Ohio*, 378 U.S. 184, 197 (1964) (Stewart, J., concurring) (declining to set forth a definitive framework for analyzing an "obscene film" and commenting that he "know[s] it when [he] see[s] it").

247. See *infra* note 192 and accompanying text.

248. *Boyd v. United States*, 116 U.S. 616, 630 (1886).

Should the Justices be inclined to hold that the Fourth Amendment proscribes drone surveillance, absent a warrant on probable cause, they will have a difficult time finding a solution in existing privacy-centric doctrine. Under conventional precedents, most routine law enforcement drone surveillance—from public vantage points—would likely be unfettered. Indeed, the drone in *Brossart* was not restrained by any Fourth Amendment scrutiny.²⁴⁹ The Court’s privacy-centric model may be inadequate to grapple with the problems of discretion raised by investigations using modern surveillance technology. The balance of this Comment suggests that instead of abrogating over forty years of doctrine, or simply failing to act, it would be prudent for the Court to reinvigorate a more comprehensive understanding of Fourth Amendment rights. In other words, having offered a description of the problem, this Section will attempt to flesh out some initial theoretical underpinnings for a possible solution. However, finding a constitutional hook is no easy task.

In going back to “first principles,”²⁵⁰ it would be appropriate to seek guidance from the Court’s first substantial analysis of the Fourth Amendment: the 1886 case, *Boyd v. United States*.²⁵¹ In *Boyd*, Justice Bradley held that the Amendment secures relevant values of “personal security, personal liberty, and private property.”²⁵² It is hard to imagine a constitutional principle broader than personal liberty. Despite the potentially expansive implications of this handy constitutional precedent, the modern Court has relied upon it sparingly to break new ground. Indeed, as described in Part II, the Court’s analysis overwhelmingly continues to tether Fourth Amendment searches solely to privacy rationales first explicated in 1960s doctrine.²⁵³

However, a single amendment can have a plurality of justifications derived from a minimal principle of “liberty.”²⁵⁴ This Section suggests reconceptualizing the Fourth Amendment as a general liberty amendment, then recognizing the plurality of values that flow from that principle of personal

249. States have taken the lead in filling this federal constitutional gap: at least thirty states have proposed drone regulations. See Allie Bohm, *Drone Legislation: What’s Being Proposed in the States?*, AM. CIV. LIBERTIES UNION (Mar. 6, 2013, 3:15 PM), <http://www.aclu.org/blog/technology-and-liberty-national-security/drone-legislation-whats-being-proposed-states>.

Virginia passed the first of such laws, placing a two-year moratorium on drone investigations. Idaho passed the first law to impose a probable cause warrant requirement on drone use. See Allie Bohm, *The First State Laws on Drones*, AM. CIV. LIBERTIES UNION (Apr. 15, 2013, 3:13 PM), <http://www.aclu.org/blog/technology-and-liberty-national-security/first-state-laws-drones>.

250. See Amar, *supra* note 1.

251. 116 U.S. 616; see *supra* note 12 and accompanying text.

252. See *Boyd*, 116 U.S. at 630.

253. See *supra* Parts II.A.1–3.

254. Cf. Kent Greenawalt, *Free Speech Justifications*, 89 COLUM. L. REV. 119, 119–20 (1989) (setting out to catalogue a plurality of justifications for free speech as an antidote for the confusion and oversimplification in legal debate). As Professor Greenawalt points out, “one can surmise that a similarly close investigation would reveal a plurality of values behind almost any important social practice.” *Id.* at 119; see also TASLITZ, *supra* note 24, at 9 (describing three concurrent Fourth Amendment values as privacy, property, and freedom of movement).

liberty.²⁵⁵ This approach follows Justice Stewart's exposition of the Amendment's purpose in *Katz*: "[the Fourth] Amendment protects individual privacy against certain kinds of governmental intrusion, but its protections go further, and *often have nothing to do with privacy at all.*"²⁵⁶ It goes without saying that privacy would be the first of those interests.²⁵⁷ Relatedly, property has been acknowledged as another relevant Fourth Amendment value.²⁵⁸ But if the Fourth Amendment is more than just a reasonable expectation of privacy, then what other interest does it "secure" for "the people"? Undoubtedly, this Comment is not the first work to suggest that the Fourth Amendment can be understood as more than just a privacy amendment.²⁵⁹ But if, as described in Part I, abuse of discretion²⁶⁰ is a particular concern that arises with drone surveillance,²⁶¹ perhaps a good place to start looking for a particular liberty hook to hang a constitutional hat on is by analogy to the stop-and-frisk policies.²⁶²

255. See *supra* note 17 and accompanying text.

256. *Katz v. United States*, 389 U.S. 347, 350 (1967) (emphasis added). The *Katz* Court went on to say that "the Fourth Amendment protects people, not places." *Id.* at 351. But that formulation is also lacking: What does the Amendment protect people from? See John B. Mitchell, *What Went Wrong with the Warren Court's Conception of the Fourth Amendment?*, 27 NEW ENG. L. REV. 35, 39–40 (1992) (arguing that the *Katz* Court failed to contextualize this newly defined Fourth Amendment, leaving it open to manipulation by later Courts).

257. See *supra* Part II.A.2. Defining "privacy" is outside the scope of this Comment. Rather than intervening in the privacy debate, this Comment suggests acknowledging a plurality of values, including those that do not depend on privacy or property interests. See *infra* Parts III.A & III.B.

258. See *supra* Part II.A.1.

259. See, e.g., *United States v. Jones*, 132 S. Ct. 945, 956 (2012) (Sotomayor, J., concurring); *Herring v. United States*, 555 U.S. 135, 148 (2009) (Ginsburg, J., dissenting); *Arizona v. Evans*, 514 U.S. 1, 18 (1995) (Stevens, J., dissenting); *Smith v. Maryland*, 442 U.S. 735, 751 (1979) (Marshall, J., dissenting); *Osborn v. United States*, 385 U.S. 323, 353–54 (1966) (Douglas, J., dissenting); *Olmstead v. United States*, 277 U.S. 438, 473 (1928) (Brandeis, J., dissenting); *Boyd v. United States*, 116 U.S. 616, 630 (1886); SAMUEL DASH, *THE INTRUDERS: UNREASONABLE SEARCHES AND SEIZURES FROM KING JOHN TO JOHN ASHCROFT* (2004); TASLITZ *supra*, note 24, at 9; Thomas K. Clancy, *What Does the Fourth Amendment Protect: Property, Privacy, or Security?*, 33 WAKE FOREST L. REV. 307 (1998); Thomas P. Crocker, *The Political Fourth Amendment*, 88 WASH. U. L. REV. 303 (2010); Thomas P. Crocker, *From Privacy to Liberty: The Fourth Amendment After Lawrence*, 57 UCLA L. REV. 1 (2009); Maclin, *supra* note 54; Tracey Maclin, *Justice Thurgood Marshall: Taking the Fourth Amendment Seriously*, 77 CORNELL L. REV. 723, 729 (1992); Daniel J. Solove, *The First Amendment as Criminal Procedure*, 82 N.Y.U. L. REV. 112 (2007); David Alan Sklansky, *Police and Democracy*, 103 MICH. L. REV. 1699, 1738 (2005); Scott E. Sundby, "Everyman" 's Fourth Amendment: Privacy or Mutual Trust Between Government and Citizen?, 94 COLUM. L. REV. 1751, 1754 (1994).

260. See Maclin, *supra* note 54, at 201.

261. See *supra* Part I.A.2.

262. Some would argue that the Court does actually curb police discretion in its Fourth Amendment cases. Indeed, one principle observation of the Court's Fourth and Fifth Amendment jurisprudence is that the Court actually does regulate police discretion, setting forth law enforcement field procedure, and creating rules of criminal procedure. See Henry J. Friendly, *The Bill of Rights as a Code of Criminal Procedure*, 53 CALIF. L. REV. 929, 930 (1965) (noting, but ultimately counseling against, the Court's practice of "lay[ing] down . . . a set of detailed rules of criminal procedure forever binding not only on the Federal Government but on the states"); Yale Kamisar, *The Warren Court and Criminal Justice: A Quarter-Century Retrospective*, 31 TULSA L.J. 1, 53–55 (1995) (describing the implications of the Warren Court's approach to constitutional criminal procedure). That is not

This Part proceeds in two Sections. Part III.A reviews the work of Tracey Maclin to give an example of a notoriously discretionary policing tactic, *Terry* stops, and one possible check on such discretion, the right of locomotion. Part III.B explores an extension of Maclin's logic as it applies to the psychology of drone surveillance. This exercise draws from recent literature on geoslavery and the digital panopticon. The Conclusion offers a theoretically more comprehensive version of the most recent Fourth Amendment doctrine—the mosaic theory. The goal of this exercise is to begin a normative analysis rather than posit a premature doctrinal solution.

A. Maclin's Right of Locomotion

This Section offers a way to reanimate an under-attended Fourth Amendment liberty interest as a solution to the drone problem. Professor Maclin has noted that the decline of certain Fourth Amendment rights “has corresponded with the ascent of another cherished value—the right to privacy.”²⁶³ In the 1990s, Maclin was troubled because the emphasis on constitutional privacy values in the home was obscuring other Fourth Amendment values, namely regulating police discretion to search and seize in public streets.²⁶⁴ According to Maclin, the Fourth Amendment has a greater purpose in modern society.²⁶⁵ He has argued, “[T]he broad principle embodied in the [Fourth Amendment's] Reasonableness Clause is that discretionary police power implicating Fourth Amendment interests cannot be trusted.”²⁶⁶ Indeed, the Supreme Court had resolved to “no longer permit [the Fourth Amendment] to be revocable at the whim of any police officer who, in the name of law enforcement itself, chooses to suspend its enjoyment.”²⁶⁷

Maclin's discussion was spurred on by abuse of police discretion to stop and frisk individuals in public spaces pursuant to *Terry v. Ohio*.²⁶⁸ In response to fears of rising crime and violence in the 1960s, police departments nationwide turned to stop-and-frisk procedures to deter crime in the streets.²⁶⁹

disputed. Rather, this Comment's insight would be that, as demonstrated in Part II, privacy has acted a gatekeeper to reaching the question of police discretion—the central meaning of the Fourth Amendment. The Court's decisions do become de facto rules of criminal field procedure, but only *after* the conduct has been found an unconstitutional intrusion upon privacy. So what actually happens is that police discretion can be curbed, but only in cases where it first implicates privacy, such as the home, bodily integrity, etc. Police discretion will go unfettered in many instances when it should be checked, such as drone surveillance, because a privacy interest is not implicated. This is the result of a system where one must prove a privacy invasion in the first instance before the Court will evaluate police discretion. This leaves one wondering: Why not just go straight to the problem?

263. See Tracey Maclin, *The Decline of the Right of Locomotion: The Fourth Amendment on the Streets*, 75 CORNELL L. REV. 1258, 1259–60 (1990).

264. *Id.*

265. Maclin, *supra* note 54, at 229.

266. *Id.*

267. *Mapp v. Ohio*, 367 U.S. 643, 660 (1961).

268. See 392 U.S. 1 (1968); Maclin, *supra* note 263, at 1260.

269. See Maclin, *supra* note 263, at 1268–69.

The “progressive” Warren Court authorized a novel form of police discretion—reasonable suspicion, a far less exacting standard than probable cause—“that was being used to subvert the Fourth Amendment rights of blacks nationwide.”²⁷⁰ According to Maclin, “things have not changed much; black men continue to be subjected to arbitrary searches and ‘frisks’ by police.”²⁷¹ Through *Terry* stops, “[t]he substantial discretion given to police officers in their confrontations with citizens has severely restricted . . . the right of locomotion.”²⁷² Maclin’s right of locomotion was a reaction to “arbitrary and oppressive” police behavior on the streets.²⁷³

Americans have enjoyed the freedom to walk the streets and move about the country free from unreasonable government intrusion for many years. . . . [O]n the streets of this country, in contrast to other nations, the individual is sovereign. The Constitution mandates that the citizenry is beyond the reach of state intrusion unless the government has good reason to believe that a crime has been or is being committed.²⁷⁴

Maclin argued that the Fourth Amendment right of locomotion was grounded in personal liberty, personal security, and the right to travel.²⁷⁵ First, the Fourth Amendment’s values “can be enjoyed only if the discretion of police officers is adequately checked, thus preventing officers from having ‘dictatorial power over the streets.’”²⁷⁶ Second, the *Shapiro v. Thompson* right to travel²⁷⁷ and the Fourth Amendment’s existing commitment to privacy of the person “combine to afford the citizen on the street substantive, as well as procedural, protection against unreasonable police interference.”²⁷⁸

270. See Tracey Maclin, *Terry v. Ohio’s Fourth Amendment Legacy: Black Men and Police Discretion*, 72 ST. JOHN’S L. REV. 1271, 1277 (1998).

271. See *id.* at 1272–73.

272. See Maclin, *supra* note 263, at 1260. Similarly, Professor Taslitz has argued that “the Fourth Amendment protects core interests essential to human flourishing, interests in privacy [as well as] property, and *freedom of movement*.” TASLITZ, *supra* note 24, at 9 (emphasis added). Thus, according to Taslitz, three concurrent and intersecting Fourth Amendment interests can be derived from “the continuing link among state-expressive violence in the form of searches and seizures and the political subjugation of individuals and groups.” See *id.* at 14.

273. Maclin, *supra* note 263, at 1260 (internal quotations and citation omitted).

274. See *id.* at 1260–64 (arguing that the Supreme Court has endangered the constitutional right to freedom of movement through restrictive interpretations of privacy in Fourth Amendment cases).

275. See *id.* at 1261; see also *Boyd v. United States*, 116 U.S. 616, 630 (1886).

276. Maclin, *supra* note 263, at 1261 (quoting Anthony G. Amsterdam, *Federal Constitutional Restrictions on the Punishment of Crimes of Status, Crimes of General Obnoxiousness, Crimes of Displeasing Police Officers, and the Like*, 3 CRIM. L. BULL. 205, 222 (1967)).

277. See *Shapiro v. Thompson*, 394 U.S. 618, 629 (1969) (“This Court long ago recognized that the nature of our Federal Union and our constitutional concepts of personal liberty unite to require that all citizens be free to travel throughout the length and breadth of our land uninhibited by statutes, rules, or regulations which unreasonably burden or restrict this movement.”).

278. Maclin, *supra* note 263, at 1261.

According to Maclin, the “national concern with street violence”²⁷⁹ and “illegal narcotics [were] the driving force behind . . . the Court’s fourth amendment jurisprudence in general.”²⁸⁰ Thus, the Court “transformed the narrow *Terry* ruling into a broad permit for investigatory searches and seizures on less than probable cause.”²⁸¹ In Maclin’s view, personal liberty was undercut because “the average citizen is not free to come and go as he pleases.”²⁸²

However, “[d]espite two decades of rulings enlarging the government’s investigatory powers, there has been no reduction in the use of illegal narcotics. . . . Police officials . . . are being asked to resolve a social problem that is beyond their . . . expertise to address alone.”²⁸³ Maclin’s solution was for the Court to overtly recognize that nonprivacy interests are also a part of the Fourth Amendment.²⁸⁴ For Maclin, “Persons on the street and in other public places have rights of locomotion and personal integrity, independent of any privacy right.”²⁸⁵ While Maclin did not posit a doctrinal formulation, he ultimately asked the country to consider two critical questions: “Is not such a state of affairs ‘repugnant to American institutions and ideals’? Is the war on drugs worth such a high cost in constitutional freedom?”²⁸⁶

B. The Right of Locomotion and the Psychology of Drone Surveillance

Today, police may no longer need to physically stop and frisk a citizen to trammel her freedom of movement. This form of surveillance is costly and practically limited by fiscal constraints—there is not enough money to put an officer on every corner. This Section argues by analogy that drone surveillance trammels the same liberty interest implicated by Maclin’s right to locomotion, but to an even greater extent. The digital panopticon²⁸⁷ allows for efficient, overpowering, and clandestine sorting and location control on an unprecedented level. Up to this point, this Comment has necessarily focused on the specter of police abusing drone surveillance technology. This Section begins to demonstrate how that can actually occur through drone surveillance.

279. *Id.* at 1268.

280. *Id.* at 1333–34.

281. *Id.* at 1271.

282. *Id.* at 1330. *See generally* TASLITZ, *supra* note 24 (arguing that the Fourth Amendment’s larger purpose is to secure liberty in American democracy through a reasonable balance between securing individual liberty and necessary governmental intrusion).

283. Maclin, *supra* note 263, at 1334.

284. *See id.* 1259–60.

285. *Id.* at 1327–28.

286. *Id.* at 1335 (quoting *State ex rel. Ekstrom v. Justice Court*, 663 P.2d 992, 997 (Ariz. 1983) (Feldman, J., concurring)).

287. *See infra* note 309 and accompanying text.

1. Bridging the Gap: From Seizure to Systemic Searches

First, note that a *Terry* stop is traditionally thought of as a “temporary seizure of the person,” not a form of surveillance.²⁸⁸ This discussion, on the other hand, extends Maclin’s right of locomotion and considers “seizures” as surveillance (or searches) on a systematic scale. To be sure, while Maclin’s critique was initially focused on pedestrian stops, he pointed out that the Court’s privacy-centric approach had trumped personal liberty values, such as a right of locomotion, in “search” jurisprudence as well. Maclin understood the Court’s public thoroughfares doctrine as eschewing the value of personal liberty in the search context by “stat[ing] that a ‘person travelling in an automobile on public thoroughfares has no reasonable expectation of privacy in his movements from one place to another.’”²⁸⁹

So while *Terry* stops are “seizures” doctrinally, this Section attempts to bridge the gap between seizures and searches at a higher level: as a system-wide policy, *Terry* stops might be described as a type of public surveillance that implicates “searches” under the Fourth Amendment.²⁹⁰ As a brief illustration, consider the recent controversy over New York City’s stop-and-frisk policy.²⁹¹ In *Floyd v. City of New York*,²⁹² Southern District of New York Judge Scheindlin held that New York City Mayor Michael R. Bloomberg’s stop-and-frisk policy was unconstitutional, in violation of the Fourth and Fourteenth Amendments as a systemic practice.²⁹³ Between 2004 and 2012, the New York City Police Department (NYPD) made 4.4 million *Terry* stops, and in over 80 percent of them, the subject was a person of color.²⁹⁴ This NYPD stop policy was justified—post hoc—as the reason for historic drops in murder and major crime rates in New York City.²⁹⁵

288. See, e.g., *Florida v. Rodriguez*, 469 U.S. 1, 5 (1984) (“Certain constraints on personal liberty that constitute ‘seizures’ for purposes of the Fourth Amendment may nonetheless be justified even though there is no showing of ‘probable cause’ if ‘there is articulable suspicion that a person has committed or is about to commit a crime.’” (citation omitted)).

289. Maclin, *supra* note 263, at 1329–30 (citing *United States v. Knotts*, 460 U.S. 276, 281 (1983)).

290. David Lyon has defined surveillance, literally meaning to “watch over,” as the “processes in which special note is taken of certain human behaviours that go well beyond idle curiosity [hinged to some special purpose]. You can ‘watch over’ . . . others because you are concerned for their safety. . . . Or you can watch over those whose activities are in some way dubious or suspect.” DAVID LYON, *SURVEILLANCE STUDIES: AN OVERVIEW* 13–14 (2007). Thus, the broader academic definition of surveillance would include systemic stop-and-frisk policies, despite their doctrinal categorization as seizures.

291. See Joseph Goldstein, *Judge Rejects New York’s Stop-and-Frisk Policy*, N.Y. TIMES, Aug. 12, 2013, at A1.

292. No. 08 Civ. 1034(SAS), 2013 WL 4046209 (S.D.N.Y. Aug. 12, 2013).

293. *Id.* at *2 (“This case is . . . not primarily about the nineteen individual stops that were the subject of testimony at trial. Rather, this case is about whether the City has a *policy* or *custom* of violating the Constitution by making unlawful stops and conducting unlawful frisks.”).

294. *Id.* at *1.

295. See Goldstein, *supra* note 291.

But particularly relevant for the purposes of this discussion, Judge Scheindlin insightfully noted that while “any one stop [may be justified as] a limited intrusion in duration and deprivation of liberty, each stop is also a demeaning and humiliating experience.”²⁹⁶ As a result, a routine and abusive stop-and-frisk policy of systemic caliber is harmful for “the community” when people “live in fear of being stopped whenever [they] leave [their] home[s] to go about the activities of daily life.”²⁹⁷ Judge Scheindlin’s concerns are not uncommon: surveillance has been defined in legal and social science literature as government-sanctioned intrusions on liberty, through systemic means, that lead to “humiliation and subjugation.”²⁹⁸ Thus, it is worth remembering that the terms “[s]earch’ and ‘seizure’ are not talismans.”²⁹⁹

Before attempting to extend Maclin’s right of locomotion to drone surveillance, a few observations must be noted in regard to structural racism. First, and most remarkably, the concern described in Part I over the drone surveillance is very similar to systemic *Terry*-stop abuses in high-crime urban neighborhoods—abuse of police discretion. A *Terry* stop is a police procedure exempted from the Fourth Amendment’s warrant requirement as justified by the necessities of policing.³⁰⁰ As described in Part II, drone surveillance would not likely be subject to a warrant requirement either because it does not intrude upon a reasonable expectation of privacy or trespass upon private property.³⁰¹

296. *Floyd*, 2013 WL 4046209, at *3.

297. *Id.*

298. See David A. Sklansky, *Traffic Stops, Minority Motorists, and the Future of the Fourth Amendment*, 1997 SUP. CT. REV. 271, 272, 318 (“For many motorists, particularly those who are not white, traffic stops can be not just inconvenient, but frightening, *humiliating*, and dangerous.” (emphasis added)). For cases and more legal literature, see, e.g., *Terry v. Ohio*, 392 U.S. 1, 14 n.11, 25 (1968) (“This is particularly true in situations where the ‘stop and frisk’ of youths or minority group members is ‘motivated by the officers[.]’ perceived need to maintain the power image of the beat officer, an aim sometimes accomplished by *humiliating* anyone who attempts to undermine police control of the streets.” (emphasis added) (citation omitted)); Bennett Capers, *Rethinking the Fourth Amendment: Race, Citizenship, and the Equality Principle*, 46 HARV. C.R.-C.L. L. REV. 1, 12 (2011) (“[T]he fact that our current Fourth Amendment jurisprudence now fosters an atmosphere in which racial profiling is often unremarkable and juridically tolerated, and in which racial minorities *perceive themselves to be second-class citizens*, evidences the current Court’s retreat from concerns about equality and citizenship.” (emphasis added)). For social science review, see Gary T. Marx, *Seeing Hazily (But Not Darkly) Through the Lens: Some Recent Empirical Studies of Surveillance Technologies*, 30 LAW & SOC. INQUIRY 339, 345–47 (2005) (reviewing JOHN GILLIOM, *OVERSEERS OF THE POOR: SURVEILLANCE, RESISTANCE, AND THE LIMITS OF PRIVACY* (2001)). Marx, summarizing Gilliom’s work, finds that “the catchall phrase ‘right to privacy’ is inadequate to describe the anger, powerlessness, domination, and fear that surveillance may generate in its subjects, nor does it offer adequate means of protection.” *Id.* at 345. Beyond the obvious sense of intrusion, Gilliom’s study demonstrates that surveillance, and the “implied threat of finding rule violations, is used by the state to manage important economic and social aspects of recipients’ lives,” implicating “simplification of [the subjects’] identity and lowering of their self esteem.” *Id.* at 345–46.

299. *Terry v. Ohio*, 392 U.S. 1, 19 (1968).

300. “The distinctions of classical ‘stop-and-frisk’ theory thus serve to divert attention from the central inquiry under the Fourth Amendment—the reasonableness in all the circumstances of the particular governmental invasion of a citizen’s personal security.” *Id.* at 19.

301. See *supra* Part II.B.

Both drone surveillance and *Terry* stops involve a measure of unchecked police discretion. Strangely, however, the drone backlash has garnered much popular support, while many still ignore pervasive stop-and-frisk abuses. Further, the drone backlash appears to be largely bipartisan and colorblind in approach—from the American Civil Liberties Union (ACLU) to Tea-Party conservatives.³⁰² The backlash could be chalked up to novelty and the allure of technology—in other words, it is on the media’s radar. But this remarkable elite mobilization against police discretion stands in stark contrast to the systemic disregard of the structural racism of law enforcement in poor urban neighborhoods through *Terry* and its progeny.³⁰³ The fact cannot be ignored. Perhaps the threat of “perfect” technological intrusion has spurred on a vigorous libertarian response to abuses of drone surveillance—but not *Terry*—because of the potential to bridge Professor John A. Powell’s “tale of two cities.”³⁰⁴ In other words, white elites may believe that the Predator’s eye would be less discriminating than a street officer’s eye: some may believe (justifiably or otherwise) that pervasive, warrantless drone surveillance might become to all (white elites included) what *Terry* stops are currently to the urban poor (almost exclusively). In this way, drone surveillance may have ironically mobilized political backlash, in contrast to disregard for *Terry*. The difference being that white elites have the political clout and capacity to mobilize, while the urban poor do not.³⁰⁵ Still, it seems obvious that unless some limits are imposed, such as a bare-bones warrant requirement, discretion could be abused in traditionally discriminatory ways as well (similar to stop-and-frisk policies). Under anything less, the question of whether the umbrella of protections that emerge from this newly inspired political rhetoric would extend—in practice—to people in poor urban areas is an open one.

302. See Catherine Crump, *What the FBI Needs to Tell Americans About Its Use of Drones*, AM. CIV. LIBERTIES UNION (July 26, 2013, 3:17 PM), <https://www.aclu.org/blog/technology-and-liberty-national-security/what-fbi-needs-tell-americans-about-its-use-drones> (discussing how Rand Paul and American Civil Liberties Union align on the drone issues).

303. See, e.g., John A. Powell, *Structural Racism: Building upon the Insights of John Calmore*, 86 N.C. L. REV. 791, 794–95 (2008) (arguing that focusing on individual racism can misdirect attention from structural racism, including urban disinvestment and residential segregation, which produces disproportionate disadvantages on a structural level).

304. See *id.* at 800–01. The “tale of two cities” is a literary reference to Charles Dickens, suggesting that in many large American metropolitan cities, two cities exist within one—structurally segregated along socioeconomic lines. *Id.* at 800.

305. Cf. Marx, *supra* note 298, at 346–47. Marx notes that Gilliom’s study of the monitoring inherent in a computerized welfare information gathering system and its application to poor mothers was “consistent with the literature on political mobilization—that the poorest off are usually too weak and overwhelmed to organize in traditional ways . . . [and] do not usually generate broad political mobilization.” *Id.*

2. *The Digital Panoptic Sort: Unfettered Drone Surveillance and Discriminatory Social Sorting*

As suggested by the immediately preceding discussion, the Fourth Amendment should be a tool of social justice that protects against systemic abuses of surveillance. After all, surveillance is a key tool for “defining power relations in everyday lives.”³⁰⁶ An easy way to keep an eye on a person—and, thus, assert power over them—is to physically intrude and then conduct a search. But “the power of sorting can bleed imperceptibly into the power of discrimination.”³⁰⁷ As described above, the abuse of systemic law enforcement surveillance practices has become so commonplace that “[t]hose familiar with law enforcement methods know that police target black[s] and Hispanic[s] . . . for pretextual . . . stops” and searches.³⁰⁸ In some neighborhoods, the resultant subjugation, lack of self-worth, and inability to obtain redress has caused people to change their behavior to avoid these intrusions. However, the result is self-regulation, whether the watchers consciously intend it or not.

The panopticon is a familiar rhetorical device, implicating the psychological effects of surveillance and the power of induced self-regulation. The panopticon, or “inspection house,” was originally a circular building designed by Samuel Bentham and promoted by his brother Jeremy Bentham in 1787.³⁰⁹ The basic idea was that the building was the perfect surveillance machine—a single inspector atop a tower could observe every occupant, but the occupants could not see each other or their observer.³¹⁰ Bentham touted the panopticon’s social value as a new technology.³¹¹ Even then, Bentham recognized the panopticon’s benefits as a “new mode of obtaining power of mind over the mind, in a quantity hitherto without example,” the watched eventually policing themselves.³¹² Michel Foucault’s influential description of the panopticon underscored its potential for *subjugation* in everyday life.³¹³ Foucault viewed the panopticon as “a cruel, ingenious cage” used as an

306. See Dobson & Fisher, *supra* note 25, at 308; *supra* Part III.A.

307. See Neil M. Richards, *The Dangers of Surveillance*, 126 HARV. L. REV. 1934, 1957 (2013) (noting the potential “sorting power of surveillance . . . to sort citizens and consumers by governments seeking profiles of criminal risk,” and emphasizing that “[t]he power to treat people differently is a dangerous one, as our many legal rules in the areas of fair credit, civil rights, and constitutional law recognize”).

308. See, e.g., Tracey Maclin, *Race and the Fourth Amendment*, 51 VAND. L. REV. 333, 344 (1998).

309. See Dobson & Fisher, *supra* note 25, at 308.

310. See *id.*

311. See *id.* at 308 (citing Jeremy Bentham, *Preface to THE PANOPTICON WRITINGS* (Miran Božovič ed., 1995)).

312. See *id.*

313. See *id.*

instrument for “enforcing discipline and punishment and a means of defining power relations in everyday lives.”³¹⁴

The proposition here is that the ever-present eye of a drone with an ARGUS payload could potentially inspire similar panoptic effects, but on a wider scale. Indeed, the panopticon has recently been used as a literal tool of analysis and has adapted to the digital age.³¹⁵ In the 2000s, Jerome Dobson and Peter Fisher theorized the use and abuse of GPS and other “human-tracking systems” as “a new form of human bondage based on *location control*.”³¹⁶ Dobson and Fisher envisioned a communication system used to transmit a “negative stimulus to the person carrying the device, either as an electric shock or as a physical pain . . . if the person carrying the device moves outside a certain area, or into other areas.”³¹⁷ To be sure, location-based services have benevolent and highly desirable public uses.³¹⁸ However, the problem Dobson and Fisher have with mobile phones, GPS, and satellite communications is their seductive character.³¹⁹ The modern panopticon is surreptitious—the physical manifestation is less alarming. Further, it offers vast benefits, despite a risk of abuse.³²⁰ As Dobson and Fisher point out,

It is difficult to conceive a single reason why anyone would willingly walk into Bentham’s cage and spend time there of his or her own accord. . . . But there are ample reasons why people willingly choose to place themselves under the watchful eye of Panopticon III. . . . Indeed, the simplest devices are carried willingly and obsessively by the watched.³²¹

Drones are luxury items that play no real role in daily life, and are perhaps even unnecessary to routine domestic law enforcement operations. Indeed, the public is unfamiliar with drone capabilities and has no outstanding personal utilitarian need for them³²²—ostensibly the most compelling rationales for domestic drones are based on safety and security. Manned aircraft, satellites, cell phones,

314. *Id.* (quoting FOUCAULT, *supra* note 25, at 207) (internal quotations omitted).

315. *See id.* at 309. The digital panopticon has been called Panopticon III. *Id.* Panopticon I is the architecture, and Panopticon II is an Orwellian CCTV network. *Id.* at 307–09.

316. *Id.* at 310 (emphasis added); *see also* Peter Fisher & Jerome Dobson, *Who Knows Where You Are, and Who Should, in the Era of Mobile Geography?*, 88 GEOGRAPHY 331, 335 (2003).

317. Fisher & Dobson, *supra* note 316, at 335 (“They know where you are and they are going to keep you there.”).

318. *See generally* Brian Klinkenberg, *Geospatial Technologies and the Geographies of Hope and Fear*, 97 ANNALS ASS’N AM. GEOGRAPHERS 350 (2007) (discussing positive uses of geospatial technologies in fields, such as environmental protection, health, and social justice).

319. *See* Dobson & Fisher, *supra* 25, at 315.

320. *Id.*

321. *Id.* (“General Motors’ OnStar tracking system is a prime example of benefits that appeal to some people and repel others. To a still wider public, the monitoring device is embedded in the mobile phone, an internationally ubiquitous fashion accessory at the start of the twenty-first century.”).

322. Hobbyist drones are luxury items. One cannot plausibly argue that a hobbyist drone provides the same level of utilitarian benefit as a cell phone.

and GPS devices have become deeply ingrained in our daily lives,³²³ providing tremendous practical benefits. In turn, their usefulness chills dissent, despite the risk of abuse.³²⁴ A drone's lack of personal utility to the average citizen may be another reason why the technology has received vigorous backlash, while comparable technologies of greater personal utility (cell-site pinging GPS, satellite, and manned aircraft) have received relatively little public resistance and scrutiny. Still, drones actually share many of these panoptic attributes. Drone technology has recently been called for in domestic operations against terrorism—the police chief of Boston thought it was a good idea for the next year's marathon.³²⁵ Further, drones have the capacity to use GPS signals for target acquisition. So while they can piggyback on the GPS data, they are even more versatile because they do not require the target of their surveillance to carry a GPS transmitter—they can rely on traditional visual acquisition. So, as it happens, Dobson and Fisher's geoslavery problem still persists.

Dobson and Fisher's theory was predicated on some form of electronic, invisibly transmitted stimulus to control location. Drones relying on GPS location-based services could do the same. However, this is not entirely necessary. With drones, like CCTV cameras, the goal would be to employ a few remote drone operators at a central hub directing a small street force, and thus, allowing it to cover a much larger swath of a city, "as opposed to having to blanket the street with officers."³²⁶ Even more disconcerting is a new development by researchers at the University of Pennsylvania. Engineers have developed an eagle-inspired drone that can actually swoop down to ground level and pick up an object, and carry it away.³²⁷ While touted for public safety, such as emergency rescue operations, the device has law enforcement and military applications as well.³²⁸

Thus, this Section argues, drones can actually be used to control locomotion in a variety of ways. First, the ever-present and pervasive surveillance of a Predator drone equipped with ARGUS could induce self-policing of movement. Second, drones working in conjunction with actual officers make policing discretionary stops all the more efficient. Third, drones may eventually have the ability to physically seize a person. As detailed in Part II, drones are highly efficient and have the ability to overpower citizen resistance. Drone surveillance acting in concert with established GPS and mobile protocols give law enforcement officers a powerful new order of

323. The same can be said for commercial air transit, seemingly the motivating factor for the Court's decisions in the flyover cases, upholding manned aerial surveillance under the public thoroughfares doctrine. *See supra* Part II.B.2.

324. *See* Dobson & Fisher, *supra* note 25, at 315.

325. *See supra* note 92 and accompanying text.

326. *See* Dailey, *supra* note 55 (emphasis added).

327. *See* Paul Joseph Watson, *New Drone Could 'Snatch Humans off the Street,'* ALEX JONES' INFOWARS (Mar. 15, 2013), <http://www.infowars.com/new-drone-could-snatch-humans-off-the-street>.

328. *See id.*

technology for search and seizure. This analysis demonstrates how police may abuse drone technology by impinging a right to locomotion, assuming the Court would find locomotion as one relevant proxy for Fourth Amendment personal liberty. Luckily, there is at least a simple initial solution for this serious problem—an *ex ante* warrant requirement.

CONCLUSION: RETHINKING THE MOSAIC THEORY OF THE FOURTH
AMENDMENT

*“What good is freedom of speech or freedom of religion or any other freedom if law enforcement officers have unfettered power to violate a person’s privacy and liberty when he sits in his home or drives his car or walks the streets?”*³²⁹

New technology presents challenging and divisive Fourth Amendment issues, not only from a doctrinal standpoint, but also from a normative perspective. As Warren and Brandeis said, “That the individual shall have full protection in person and in property is a principle as old as the common law; but it has been found necessary from time to time to define anew the exact nature and extent of such protection.”³³⁰ This Comment has demonstrated why rapidly advancing surveillance technology is a problem, has considered expanding our understanding of a Fourth Amendment search to include personal liberty alongside privacy and property rights, and has gestured towards one possible means of addressing that problem—extending Maclin’s right of locomotion.

As far as a doctrinal solution, the mosaic theory provides a good platform to build upon because it attempts to secure Fourth Amendment rights in public spaces—an aspect of the Amendment often obscured by privacy rationales. While the mosaic theory may partially secure freedom of movement, it is currently a failed analogy. The mosaic theory was rightly criticized. But the theory’s flaw was not that it deviated from traditional sequential analysis, it was that it was constructed (perhaps necessarily to appeal to the Supreme Court) around the opaque privacy rationale, rather than the more serious problem in that instance: police discretion. The *Maynard* rationale was that the “whole is something different than the sum of its parts”—substantial amounts of surveillance contravene society’s expectation of *privacy* in the *whole of our movements*.³³¹ As a matter of doctrine, the mosaic theory attempts to justify privacy in public through a temporal distinction by considering how long the government tracked movements. However, as Justice Sotomayor clearly noted

329. Tracey Maclin & Julia Mirabella, *Framing the Fourth*, 109 MICH. L. REV. 1049, 1075 (2011) (quoting Yale Kamisar, *The Fourth Amendment and Its Exclusionary Rule*, THE CHAMPION, Sept./Oct. 1991, at 20, 21).

330. Warren & Brandeis, *supra* note 11, at 193.

331. *United States v. Maynard*, 615 F.3d 544, 561 n.* (D.C. Cir. 2010), *aff’d in part sub nom. United States v. Jones*, 132 S. Ct. 945 (2012) (quoting KURT KOFFKA, PRINCIPLES OF GESTALT PSYCHOLOGY 176 (1935)).

in *Jones*, concern with police discretion arises “[i]n cases involving *even short-term* monitoring.”³³² This makes sense when one thinks of the *Brossart* example—it matters not whether the drone was there for five minutes or five days, when the discretionary power is enough to create an oppressive effect. Going forward, whether courts decide to use Maclin’s freedom of locomotion or some other interest, it should not be tied to a temporal hook.

As this Comment has shown, current Fourth Amendment doctrine based on distinctions between public and private or short-term and long-term is irrelevant to regulating abuse of police discretion. The courts should open up their field of view—personal liberty is just as relevant to Fourth Amendment rights as is privacy. Finally, this necessarily brief Conclusion suggests that courts should consider some factors derived from Dobson and Fisher’s work on the digital panopticon, balancing intrusion and discretion alongside traditional privacy and property concerns, to determine what may constitute an abuse of discretion.³³³

- 1) Cost: If the exercise of power employed can impose a high political cost to citizens, despite a low economic cost to police, it may be prone to abuse.
- 2) Geographic coverage: If the exercise of power can be extended indefinitely, wherever government actors may go or citizens are willing to inform, it may be prone to abuse.
- 3) Benefit versus risk: If the exercise of power is seductive and irresistible it may be prone to abuse. That is, be wary of “public good” rationales being used to chill dissent and stifle debate.
- 4) Silence: If the exercise of power is strangely clandestine, breeding chronic inattention and acquiescence, it may be prone to abuse.

This is not to say that drone surveillance will always be repugnant in the abstract. Only when abstract values are given weight by facts do they have normative force.³³⁴ This analysis will preliminarily apply them to the facts of *Brossart*, to promote discussion.³³⁵ First, the drone used in *Brossart* came at no cost to the police; DHS was footing the bill for the surveillance. However, the drone allowed the SWAT team to use that technology to seize six cows and unarm three farmers. It was too easy for the police to overpower *Brossart*. Second, the predator drone in question carried GPS and an optical surveillance payload. Its geographical range was nearly indefinite, giving police the ability to target anyone in their jurisdiction. Third, the drone was used under a safety and security rationale—to give officers safety and an advantage against the *Brossarts*. As North Dakota SWAT team leader Bill Macki mentioned, the

332. *United States v. Jones*, 132 S. Ct. 945, 955 (2012) (Sotomayor, J., concurring) (emphasis added); *see also Katz v. United States*, 389 U.S. 347, 350 n.4 (1967).

333. These factors are drawn from the discussion in Dobson & Fisher, *supra* 25, at 312–18.

334. *See* Burton, *supra* note 17, at 552–53.

335. *See supra* Part I.A. for the facts of *Brossart* relied upon in this Conclusion.

drone's "effectiveness in rural operations is exceptional [because] they keep tactical operations as safe as possible."³³⁶ Fourth, the drone was surreptitious. Indeed, the Brossarts had no idea it was being used and would not have been able to challenge the government action if the fact was not disclosed.³³⁷ This chronic inattention could lead to an unknown and clandestine one-way ratchet of executive power. Under the Dobson and Fisher metric, this might add up to an abuse of discretion, and if the Court was so inclined to extend its doctrine, a search.

336. See Koebler, *supra* note 4.

337. See *id.* ("Brossart says he 'had no clue' they used a drone during the standoff until months after his arrest.").