Article

The Normative Fourth Amendment

Matthew Tokson†

INTRODUCTION

The concept of a Fourth Amendment "search" is important to both law enforcement officers and the citizens they may surveil. The Amendment classically requires officers to obtain a warrant before engaging in a search,[1] and even the exceptions to this rule typically demand probable cause.[2] By contrast, when an investigative practice is not a search, the government can use it to investigate any citizen without meaningful constitutional regulation.[3]

Yet the definition of a "search" has changed dramatically over time and remains contested today. Currently, searches are largely defined by the *Katz* test, which looks to whether a person had a "reasonable expectation of privacy" in the thing searched.[4]

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† Associate Professor, University of Utah S.J. Quinney College of Law.

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1. *See, e.g.*, Mitchell v. Wisconsin, 139 S. Ct. 2525, 2533 (2019) (asserting that the Fourth Amendment "normally requires a warrant for a lawful search").

2. *See, e.g.*, United States v. Ross, 465 U.S. 798, 799 (1982) ("[A] warrantless search of an automobile stopped by police officers who had probable cause to believe the vehicle contained contraband was not unreasonable within the meaning of the Fourth Amendment." (citing Carroll v. United States, 267 U.S. 132 (1925))).

3. For example, the government lawfully gathered millions of citizens' dialed phone numbers following *Smith v. Maryland*, 442 U.S. 735, 745–46 (1979), which held that obtaining such information was not a search.

4. *E.g.*, New York v. Class, 475 U.S. 106, 112 (1986) (quoting Katz v.

This expectations-based test expanded the scope of the Fourth Amendment beyond physical things and helped solve the problem of rampant government wiretapping in the mid-twentieth century.[5] But it has given rise to a host of new problems and has become one of the most widely disparaged tests in all of American law.[6] The test is tautological,[7] incoherent,[8] ignores important Fourth Amendment values,[9] gives judges free reign to impose their policy preferences,[10] and, as a practical matter, is notoriously unhelpful.[11] It has failed to protect privacy in many digital forms of information,[12] will shrink the Fourth Amendment's scope as knowledge of privacy threats increases,[13] and is increasingly useless in the Internet age.[14] These problems stem from a core deficiency: societal expectations are difficult to assess and offer a shaky foundation for the Fourth Amendment's protections. *Katz*, in short, is poorly suited to regulating government

United States, 389 U.S. 347, 360 (1867) (Harlan, J., concurring)). Investigations involving the physical touching of property for information-gathering purposes typically require a warrant under a new and evolving sub-rule. *See* Florida v. Jardines, 569 U.S. 1, 7–10 (2013); United States v. Jones, 565 U.S. 400, 404–06 (2012).

5. Matthew Tokson, *Automation and the Fourth Amendment*, 96 IOWA L. REV. 581, 583–84, 584 n.13 (2011).

6. *See, e.g.*, Anthony G. Amsterdam, *Perspectives on the Fourth Amendment*, 58 MINN. L. REV. 349, 384 (1974); Craig M. Bradley, *Two Models of the Fourth Amendment*, 83 MICH. L. REV. 1468, 1468 (1985); Morgan Cloud, *Rube Goldberg Meets the Constitution: The Supreme Court, Technology and the Fourth Amendment*, 72 MISS. L.J. 5, 28–29 (2002); Sherry F. Colb, *What Is a Search? Two Conceptual Flaws in Fourth Amendment Doctrine and Some Hints of a Remedy*, 55 STAN. L. REV. 119, 120–21 (2002); Amitai Etzioni, *Eight Nails into Katz's Coffin*, 65 CASE WESTERN L. REV. 413, 413 (2014); Jed Rubenfeld, *The End of Privacy*, 61 STAN. L. REV. 101, 103 (2008); Scott E. Sundby, *"Everyman" 's Fourth Amendment: Privacy or Mutual Trust Between Government and Citizen?*, 94 COLUM. L. REV. 1751, 1791 (1994).

7. William Baude & James Y. Stern, *The Positive Law Model of the Fourth Amendment*, 129 HARV. L. REV. 1821, 1824–25 (2016).

8. Daniel J. Solove, *Fourth Amendment Pragmatism*, 51 B.C. L. REV. 1511, 1511 (2010).

9. William J. Stuntz, *Privacy's Problem and the Law of Criminal Procedure*, 93 MICH. L. REV. 1016, 1021 (1995).

10. Minnesota v. Carter, 525 U.S. 83, 97 (1998) (Scalia, J., concurring).

11. *Id.*; *see* Solove, *supra* note 8, at 1522–24.

12. *E.g.*, Colb, *supra* note 6, at 132–39; Etzioni, *supra* note 6, at 421–22.

13. Matthew Tokson, *Knowledge and Fourth Amendment Privacy*, 111 NW. U. L. REV. 139, 187 (2016).

14. Paul Ohm, *The Fourth Amendment in a World Without Privacy*, 81 MISS. L.J. 1309, 1325–26 (2012).

surveillance in the modern world. The Supreme Court itself has begun to recognize the deficiencies of the current regime, holding in *Carpenter v. United States* that the Fourth Amendment protects against cell phone location tracking despite the fact that cell phone location data is not "private" and is exposed to third-party companies.[15] As the Court starts to move beyond the strictures of the *Katz* test, the time is right to rethink how the Fourth Amendment applies to modern surveillance practices.

But while critiques of the *Katz* test are legion, concrete alternatives are rare. There is a growing recognition that the question of the Fourth Amendment's scope is inescapably normative; it requires courts to make a value judgment about when the Fourth Amendment should protect citizens' privacy rather than simply determining whether citizens generally expect privacy.[16] A number of scholars have accordingly argued that courts should take a more normative approach to the Fourth Amendment.[17] But little progress has been made towards developing an actual normative test, beyond simply calling for courts to create one.[18]

This Article takes a different approach. It develops a specific, detailed normative model for determining the scope of the Fourth Amendment. The model is grounded in contextual theories of surveillance, which focus on the specific activities and communications that surveillance disrupts. It draws on Fourth Amendment precedents that reflect many of the same concerns, which are sometimes lost in the futile search for societal expectations. And it addresses a literature that has received relatively little attention in Fourth Amendment scholarship, encompassing numerous studies of the measurable harms of surveillance to its targets.[19]

15. 138 S. Ct. 2206, 2217–20 (2018).

16. Note that the terms "citizens" or "people" used below encompass resident aliens, although the Supreme Court has not directly ruled that the Fourth Amendment applies to such persons. *Cf.* United States v. Verdugo-Urquidez, 494 U.S. 259, 271 (1990) (holding that the Fourth Amendment does not apply to nonresident aliens but noting that similar protections apply to residents); INS v. Lopez-Mendoza, 468 U.S. 1032, 1050 (1984) (assuming without deciding that the Fourth Amendment applied to an undocumented immigrant present in the United States).

17. *See infra* Part I.A.

18. *See infra* Part I.A.

19. *See infra* Part I.B.2.c.

Drawing on these sources, the normative model breaks out surveillance harms into three categories: (1) avoidance of activities because of fear of surveillance; (2) harm to relationships and communications; and (3) direct psychological or physical harm. These harms are measurable and often well-documented.[20] Yet they are also easier for judges to intuit in difficult cases than concepts like societal knowledge or expectations.[21]

On the other side of the balance are the benefits of crime detection and prevention. This inquiry would consider, for instance, whether a surveillance technique would primarily be used in the early stages of an investigation in order to build probable cause, and whether it would be likely to reveal criminal activity that would otherwise be impossible to detect.[22] A normative test would also examine whether the same information might be obtained through less invasive means.[23] Considering these factors, if a surveillance practice causes harms to individuals that outweigh the benefits from enhanced law enforcement, courts should hold that the Fourth Amendment requires the police to obtain a warrant, or satisfy an exception to the warrant requirement, before conducting the surveillance.

The goal of the proposal is to move past mere critique of the *Katz* test and towards formulating a workable replacement, one that is better able to address the ever-changing landscape of modern surveillance. Like any legal regime, the normative model is hardly perfect, and potential objections to it are addressed in detail below.[24] But there are numerous theoretical and practical reasons to favor a normative approach.[25] A normative balancing test reflects the values at the heart of Fourth Amendment jurisprudence more fully and effectively than other approaches. It is likewise consistent with the text and history of the Fourth Amendment.[26] Indeed, both the leading originalist interpretation of the Amendment and less formalist theories of construction support a balancing approach to the crucial ques-

20. *See, e.g.*, *infra* text accompanying notes 128–33.
21. *See, e.g.*, *infra* text accompanying note 95.
22. *See infra* Part I.B.1.
23. *See infra* Part I.B.3.
24. *See infra* Part IV.
25. *See infra* Part III.
26. *See infra* Part II.

tion of when the government can engage in suspicionless surveillance.[27]

The functional advantages of the normative test are substantial, and arguably essential, for addressing modern surveillance practices. The test is, for example, adaptable to new surveillance technologies and new social contexts. It takes into account harms that other approaches ignore, including coercion and discrimination. It is far better suited to addressing programmatic surveillance and data analysis. And it directly considers the normative values at stake in Fourth Amendment cases, avoiding the false targets and arbitrariness of alternative tests.[28]

Moreover, the test can be applied to a variety of Fourth Amendment questions that courts and scholars struggle with under current law. It can offer clear answers in frontier cases such as those involving internet browsing data, smart home technology, or email content. The normative approach can also help rehabilitate some widely criticized cases that have plausible outcomes but dubious reasoning. Finally, the test can help identify flawed cases that are ripe for reversal, where the normative balance tilts sharply in favor of privacy or surveillance but current law leads courts to the opposite outcome.[29]

The Article proceeds in five Parts. Part I describes the normative model in detail and traces its lineage in Fourth Amendment precedent and surveillance theory. Part II discusses the textual, historical, and theoretical foundations of a balancing approach to the Fourth Amendment's scope. Part III examines the many practical advantages of the normative approach. Part IV addresses potential objections to the normative test and to balancing tests in general. It also examines an alternative approach that looks to positive law as the basis for the Fourth Amendment's protections. Part V applies the normative model to resolve frontier cases, provide firmer support for poorly reasoned cases, and identify deeply flawed cases suitable for reversal.

27. *See infra* Part II.B.

28. Additional advantages are discussed *infra* Part III.

29. *See infra* Part V.

I. TOWARDS A NEW MODEL OF THE FOURTH AMENDMENT

A. THE *KATZ* TEST AND THE NEED FOR NORMATIVITY

The Supreme Court established that a Fourth Amendment search occurs when a government act violates an individual's "reasonable expectation of privacy."[30] This standard derives from Justice Harlan's solo concurrence in the 1967 case *Katz v. United States*.[31] The Court has largely failed to clarify what makes an expectation of privacy "reasonable," and the rationales of its *Katz* cases are often contradictory.[32] In some cases, the Court looks primarily to the probability of detection by the police, while in others it looks to positive law or amorphous policy considerations.[33] The law of the *Katz* test has, to date, been largely case-dependent and unpredictable.[34]

30. *E.g.*, Oliver v. United States, 466 U.S. 170, 178 (1984). The Supreme Court has recently adopted a sub-test that finds a Fourth Amendment search when a government official physically intrudes on property for the purposes of gathering information. *See* Florida v. Jardines, 569 U.S. 1, 7–10 (2013); United States v. Jones, 565 U.S. 400, 404–06 (2012). This has, thus far, added little to the *Katz* test, and the Supreme Court cases where it has been employed would likely have reached the same outcome under *Katz*. *Jardines*, 569 U.S. at 12–16 (Kagan, J., concurring); *Jones*, 565 U.S. at 418–31 (Alito, J., concurring in judgment). It has also rapidly become confusing and difficult to apply, as the Court has had to determine the extent of an implied social license to enter the curtilage of a home—a question bound up in a social norms inquiry even more amorphous and confusing than the *Katz* test. *Jardines*, 569 U.S. at 10; George M. Dery III, *Failing to Keep "Easy Cases Easy":* Florida v. Jardines *Refuses to Reconcile Inconsistencies in Fourth Amendment Privacy Law by Instead Focusing on Physical Trespass*, 47 LOY. L.A. L. REV. 451, 471–79 (2014).

31. 389 U.S. 347, 361 (1967) (Harlan, J., concurring). This approach was quickly adopted by lower courts and the Supreme Court as the definitive test. *E.g.*, Terry v. Ohio, 392 U.S. 1, 9 (1968) ("We have recently held that . . . wherever an individual may harbor a reasonable 'expectation of privacy,' he is entitled to be free from unreasonable government intrusion." (quoting *Katz*, 389 U.S. at 361 (Harlan, J., concurring))); United States v. Guadalupe-Garza, 421 F.2d 876, 878 (9th Cir. 1970) (considering whether defendant had a "reasonable 'expectation of privacy'" when crossing the border from Mexico to California (quoting *Terry*, 392 U.S. at 9)).

32. *E.g.*, Orin S. Kerr, *Four Models of Fourth Amendment Protection*, 60 STAN. L. REV. 503, 504 (2007); Matthew Tokson, *The Emerging Principles of Fourth Amendment Privacy*, 88 GEO. WASH. L. REV. (forthcoming 2020).

33. Kerr, *supra* note 32, at 507–22.

34. *See* Ronald J. Allen & Ross M. Rosenberg, *The Fourth Amendment and the Limits of Theory: Local Versus General Theoretical Knowledge*, 72 ST. JOHNS L. REV. 1149, 1153–58, 1166 (1998).

Criticism of the *Katz* test began not long after its adoption and has only grown in volume and intensity over the years.[35] Critics argue that a test based on expectations is unworkable and tautological.[36] They note the potential for circularity, as societal expectations about privacy may be shaped by government practices and judicial decisions.[37] They point out that courts are poorly situated to assess societal views about privacy.[38] Moreover, an expectations-based Fourth Amendment will shrink over time as knowledge of privacy threats increases.[39]

For decades, and increasingly often in recent years, scholars have called upon courts to take a more normative approach.[40] Such an approach would focus on the level of privacy that citizens *should* have rather than how much privacy they expect.[41]

Calls for a normative approach to the Fourth Amendment sometimes follow broad critiques of the *Katz* test,[42] but they also arise in narrower works examining new surveillance technologies.[43] These analyses are generally insightful. Yet these divergent writings share a profound humility regarding the content

35. *See, e.g.*, Joseph D. Grano, Foreword, *Perplexing Questions About Three Basic Fourth Amendment Issues: Fourth Amendment Activity, Probable Cause, and the Warrant Requirement*, 69 J. CRIM. L. & CRIMINOLOGY 425, 429 (1978); sources cited *supra* note 6.

36. Baude & Stern, *supra* note 7, at 1824–25.

37. *E.g.*, Rubenfeld, *supra* note 6, at 132–33.

38. Solove, *supra* note 8, at 1521–22.

39. *E.g.*, Tokson, *supra* note 13, at 187.

40. *See, e.g.*, Catherine Hancock, *Warrants for Wearing a Wire: Fourth Amendment Privacy and Justice Harlan's Dissent in* United States v. White, 79 MISS. L.J. 35, 36–38 (2009); Justin Holbrook, *Communications Privacy in the Military*, 25 BERKELEY TECH. L.J. 831, 903 (2010); Neil Richards, *The Third-Party Doctrine and the Future of the Cloud*, 94 WASH. U. L. REV. 1441, 1487–88 (2017); Gavin Skok, *Establishing a Legitimate Expectation of Privacy in Clickstream Data*, 6 MICH. TELECOMM. & TECH. L. REV. 61, 82–83 (2000); Olivier Sylvain, *Failing Expectations: Fourth Amendment Doctrine in the Era of Total Surveillance*, 49 WAKE FOREST L. REV. 485, 522 (2014); James J. Tomkovicz, *Beyond Secrecy for Secrecy's Sake: Toward an Expanded Vision of the Fourth Amendment Privacy Province*, 36 HASTINGS L.J. 645, 698 (1985).

41. *E.g.*, Aya Gruber, *Garbage Pails and Puppy Dog Tails: Is That What Katz Is Made of?*, 41 U.C. DAVIS L. REV. 781, 795 (2008) ("At some level the constitutional inquiry must concern not just what society actually believes is private, but what we ought to be able to regard as private . . . .").

42. *See, e.g.*, Tomkovicz, *supra* note 40, at 698.

43. *See, e.g.*, Skok, *supra* note 40, at 82–83. Justice Harlan himself called for a more normative approach, repudiating in part the *Katz* test that he had created, in a case involving an undercover government agent's recording of a

of a normative test. They note "[t]he difficulty [in] determining the right normative formula,"[44] clarify that the general normative approach they favor is "fact-driven" and imprecise,[45] or explain that "[i]n this initial effort it would be futile to attempt to provide closure on the subject of possible grounds" for a normative test.[46] More commonly, they simply urge courts to take a normative approach and reach the correct results in various cases, without explaining what such an approach would entail.[47] A few scholars have taken a descriptive approach, examining federal and state cases post-*Katz* and identifying factors that seem to correlate with Fourth Amendment violations (such as intrusiveness) or that are generally relevant to privacy (such as the nature of the information sought).[48] But these correlates have not yielded a test, except perhaps a "totality of the circumstances" test that directs courts to weigh any relevant normative considerations and reach the best outcome.[49]

conversation. United States v. White, 401 U.S. 745, 768 (1971) (Harlan, J., dissenting).

44. Gruber, *supra* note 41, at 836.

45. Mary Graw Leary, *Reasonable Expectations of Privacy for Youth in a Digital Age*, 80 MISS. L.J. 1035, 1091 (2011).

46. Tomkovicz, *supra* note 40, at 703.

47. *See, e.g.*, Skok, *supra* note 40, at 82–83; Sylvain, *supra* note 40, at 522.

48. *See, e.g.*, Susan Freiwald, *First Principles of Communications Privacy*, 2007 STAN. TECH. L. REV. 3 (2007) (discussing intrusive searches); Melvin Gutterman, *A Formulation of the Value and Means Models of the Fourth Amendment in the Age of Technologically Enhanced Surveillance*, 39 SYRACUSE L. REV. 647, 722–23 (1988) (discussing generalities relevant to privacy); Stephen E. Henderson, *Beyond the (Current) Fourth Amendment: Protecting Third-Party Information, Third Parties, and the Rest of Us Too*, 34 PEPP. L. REV. 975, 985–1014 (2007) (listing considerations relevant to privacy).

49. Henderson, *supra* note 48, at 985–1014, 1025 (noting several nondispositive considerations relevant to privacy and affirming the importance of a "totality of the circumstances" approach to the Fourth Amendment). Paul Ohm has described *Carpenter v. United States* as radically changing the *Katz* test itself and virtually replacing it with the standard for cell phone data set out in *Carpenter*, which looks to the "the deeply revealing nature of [cell phone data], its depth, breadth, and comprehensive reach, and the inescapable and automatic nature of its collection." Paul Ohm, *The Many Revolutions of* Carpenter, 32 HARV. J.L. & TECH. 357, 361–63 (2019)*; see* Carpenter v. United States, 138 S. Ct. 2206, 2217–18, 2223 (2018). Even assuming that this standard is now controlling in the third-party doctrine context, it is unlikely that the Court intended it to modify *Katz*. Indeed, the Court took pains to avoid providing any guidance on future Fourth Amendment issues, emphasizing that "[o]ur decision today is a narrow one" and listing several Fourth Amendment issues (including those closely related to historical cell phone data) on which the Court expressed

What explains the reluctance to specify how courts should normatively determine the scope of the Fourth Amendment? One of the earliest and most illuminating calls for a normative approach, from James Tomkovicz's 1985 article, suggests that the difficulty of formulating a normative test stems in part from the difficulty of conceptualizing the harms that government surveillance can cause.[50] Tomkovicz offers no test and notes that there are "no ready guides" for value judgments regarding citizens' privacy, but posits that as theories of privacy and related constitutional values develop, courts could incorporate their conclusions into a normative approach.[51]

Several decades later, the time has come to incorporate the insights of privacy and surveillance theory into a concrete Fourth Amendment test. Such theory has made enormous progress over the past thirty years and in a variety of fields, including law, sociology, philosophy, and information science. Among other developments, privacy theory has largely shifted from identifying abstract principles of privacy towards focusing on the specific practices, communications, and freedoms that privacy enables.

Scholars have offered various general theories of privacy, including privacy as control over information,[52] limited exposure

no opinion. *Carpenter*, 138 S. Ct. at 2220. Still, Ohm's point is well taken that *Carpenter* might serve as a basis for a rethinking of the *Katz* test. *See* Ohm, *supra*, at 361–63. I have elsewhere argued that the *Carpenter* and *United States v. Jones* opinions reflect the Court's recognition of factors that have long dictated its application of *Katz*. *See* Tokson, *supra* note 32, at 18–20.

50. Tomkovicz, *supra* note 40, at 701–02.

51. *Id.* at 701–03.

52. *E.g.*, ALAN F. WESTIN, PRIVACY AND FREEDOM 7 (1967) ("Privacy is the claim of individuals . . . to determine for themselves when, how, and to what extent information about them is communicated to others."); Charles Fried, *Privacy*, 77 YALE L.J. 475, 482 (1968) ("Privacy is not simply an absence of information about us in the minds of others; rather it is the *control* we have over information about ourselves.").

to others,[53] intimacy,[54] bodily integrity,[55] and as a precondition to self-development.[56] Yet theorists have increasingly recognized that the meaning of privacy is rarely fixed or universal, and its value often depends on the social contexts in which it can protect individuals from coercion, condemnation, and other harms.[57] As social practices and norms change, different aspects of privacy can become more or less important. For instance, control over data may be increasingly important in the Internet era, while limiting exposure to others may be less of a concern in an age of larger houses and increasing social isolation. Moreover, some aspects of privacy may be crucial in some contexts and irrelevant in others.[58]

In order to develop a more complete account of privacy harm, theories of contextual privacy have looked to the norms that govern information exchange in a wide variety of social contexts and relationships.[59] When people offer their information in a certain context, the exchange of information is generally governed by implicit agreements regarding its use.[60] These agreements and norms might dictate, for instance, that the parties

53. *E.g.*, SISSELA BOK, SECRETS: ON THE ETHICS OF CONCEALMENT AND REVELATION 10–11 (1983) ("[P]rivacy [is] the condition of being protected from unwanted access by others . . . ."); Ruth Gavison, *Privacy and the Limits of Law*, 89 YALE L.J. 421, 423 (1980).

54. *E.g.*, JULIE C. INNESS, PRIVACY, INTIMACY, AND ISOLATION 140 (1992) ("[P]rivacy is the state of possessing control over a realm of intimate decisions . . . ."); Tom Gerety, *Redefining Privacy*, 12 HARV. CIV. RTS.-CIV. LIBERTIES L. REV. 233, 268 (1977).

55. *E.g.*, Richard B. Parker, *A Definition of Privacy*, 27 RUTGERS L. REV. 275, 283–84 (1974).

56. *E.g.*, Anita L. Allen, *Coercing Privacy*, 40 WM. & MARY L. REV. 723, 739–40 (1999); Julie E. Cohen, *Examined Lives: Informational Privacy and the Subject as Object*, 52 STAN. L. REV. 1373, 1377 (2000); Paul M. Schwartz, *Privacy and Democracy in Cyberspace*, 52 VAND. L. REV. 1609, 1653 (1999).

57. *See, e.g.*, HELEN NISSENBAUM, PRIVACY IN CONTEXT: TECHNOLOGY, POLICY, AND THE INTEGRITY OF SOCIAL LIFE 80–89 (2010); Adam Barth et al., *Privacy and Contextual Integrity: Framework and Applications*, 2006 IEEE SYMP. ON SECURITY & PRIVACY 184, 184–86 (2006).

58. For example, keeping one's marital or health status private may be important in the context of a job interview but unimportant in the context of social interactions with friends or a conversation with a doctor. *See* NISSENBAUM, *supra* note 57, at 143–44.

59. *Id.*

60. *Id.* at 124–25.

restrict further information flow or maintain anonymity by declining to link the data with personally identifiable information.[61] Violations of these context-dependent norms lead to identifiable harms, as parties' preferences are ignored and their interests adversely affected.[62] Thus a clinical worker who disclosed a patient's treatment for addiction would violate norms of behavior specific to the treatment context, causing harms to the patient's reputation, psychological well-being, employment prospects, etc.

Relatedly, pragmatic privacy theories focus on how the lack of privacy deters and interrupts specific social and personal practices.[63] They posit that the value of privacy depends on the practices that it protects, which include activities as varied as political activism, shopping, communication, research, nudity, and intimacy.[64] Likewise, the concept of intellectual privacy has called attention to the importance of privacy to expressive activities, personal communications, and freedom of thought itself.[65] It reveals a particularly important set of practices and cognition that surveillance has the potential to disrupt. These and other recent theoretical movements offer a deeper, more specific, and more practical understanding of the harms of surveillance. Their insights can help provide a foundation for a workable normative approach to the Fourth Amendment.

This Article's analysis of the harms of government surveillance can help to further develop and refine contextual and pragmatic privacy theories. The Article examines in detail a particularly important privacy context: surveillance by police or other government officials of private citizens. It identifies the most fundamental disruptions and harms caused by such surveillance. More broadly, the Article develops an analytical approach that can be used to evaluate private intrusions and government surveillance alike.

61. *See id.* at 186–87.

62. *See id.* at 212.

63. *See* Daniel J. Solove, *Conceptualizing Privacy*, 90 CAL. L. REV. 1087, 1126–32 (2002).

64. *Id.* at 1143, 1146–54.

65. *See* Neil M. Richards, *Intellectual Privacy*, 87 TEX. L. REV. 387, 412–26 (2008).

The following Sections propose a concrete, normative test for the Fourth Amendment's scope and trace the lineage of each factor of the test in surveillance theory, constitutional practice, or both. Part II then discusses the test's doctrinal, historical, and theoretical foundations.

B. A NORMATIVE TEST

An effective normative test for the Fourth Amendment's scope would balance the benefits of warrantless government surveillance against its costs. However, a test that merely directs courts to weigh all benefits to law enforcement against all harms to citizens is not sufficiently detailed or rigorous. Such a standard would require each individual court to determine how best to theorize and assess the various harms of surveillance, likely resulting in extreme inconsistency and prohibitively high decision costs.

Courts require a more concrete, workable test. But, if it is to reflect the normative balance inherent in the Fourth Amendment, such a test must also incorporate essential categories of law enforcement benefit and social harm. The following proposal attempts to fulfill these goals and strike a middle ground between including important categories of surveillance harm and remaining concise. Its aim is not only to offer a workable test, but to shift the focus of Fourth Amendment debate away from criticisms of *Katz* and toward actual alternatives.

The test can be described as follows:

The normative test asks whether a surveillance practice's value to law enforcement in terms of crime detection and prevention outweighs three fundamental harms: (1) the avoidance of lawful activity because of fear of surveillance; (2) the harm to relationships and communications caused by observation; and (3) the concrete psychological or physical harm suffered due to surveillance. The test then asks whether the same law enforcement goals could be achieved via a less invasive practice. If, considering these factors, the total harm to citizens from a type of surveillance outweighs the total benefit from enhanced law enforcement, courts should hold that the Fourth Amendment requires police to obtain a warrant, or to satisfy an exception to the warrant requirement, before conducting the surveillance. If the benefit to law enforcement outweighs the harm, then the police

should be able to conduct the surveillance without Fourth Amendment regulation.

These three categories of harm are derived not only from basic Fourth Amendment ideals like privacy, liberty, and security, but also from a consideration of the functional and practical values these ideals protect.[66] The Fourth Amendment is designed to prevent arbitrary government surveillance,[67] a valuable goal not only in itself but also because such surveillance prevents us from acting freely, stifles our relationships and freedom of association, and does harm to us both as individuals and as citizens of a democracy. These practical values are embodied in the proposed test. Each of the factors has a basis in existing Fourth Amendment jurisprudence, well-developed theories of privacy and police coercion, or both. The following Sections discuss the factors in more detail, as well as their doctrinal and theoretical foundations.

1. Crime Detection and Prevention

The first factor of the test examines a warrantless surveillance practice's benefits to law enforcement, which can primarily be expressed in terms of enhanced crime detection and enhanced deterrence.[68] Because detection and prevention are generally linked, the test combines them in a single inquiry.[69]

66. For a discussion of historical Fourth Amendment ideals, see, for example, Boyd v. United States, 116 U.S. 616, 630 (1886) ("It is not the breaking of [a man's] 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 . . . ."), *abrogated by* Warden, Md. Penitentiary v. Hayden, 387 U.S. 294 (1967); Morgan Cloud, *Searching Through History; Searching for History*, 63 U. CHI. L. REV. 1707, 1726 (1996) ("[T]he historical record suggests that objections to general warrants and general searches alike rested upon broad concerns about protecting privacy, property, and liberty from unwarranted and unlimited intrusions.").

67. *E.g.*, Thomas Y. Davies, *Recovering the Original Fourth Amendment*, 98 MICH. L. REV. 547, 744–45 (1999).

68. It would also encompass evidence collection for the purposes of conviction, which would have benefits related to detection, deterrence, incapacitation, and retribution.

69. *See, e.g.*, Daniel S. Nagin & Greg Pogarsky, *Integrating Celerity, Impulsivity, and Extralegal Sanction Threats into a Model of General Deterrence: Theory and Evidence*, 39 CRIMINOLOGY 865, 883–84 (2001) (studying drinking and driving trends among college students and finding that the certainty of punishment was a stronger deterrent than the severity of punishment). Courts might optionally prefer to analyze these facts of law enforcement separately, breaking

This factor essentially asks, how valuable to law enforcement would it be to be able to engage in a certain type of warrantless surveillance? A court might consider whether a surveillance technique would primarily be used in the early stages of investigations, before probable cause has been developed, and whether the warrantless use of the technique would likely reveal criminal activity that would otherwise go undetected.[70] For example, if obtaining certain financial records without a warrant would allow police to identify white collar crimes that would otherwise be difficult to detect, that would weigh in favor of excluding such records from Fourth Amendment regulation.[71] Relatedly, courts could consider studies examining the effects of limiting a particular surveillance technique. Research indicating that limits on certain kinds of surveillance would reduce police ability to build probable cause[72] or to deter certain crimes[73] may help to quantify the value of the surveillance to law enforcement

this factor out into two separate factors on the law enforcement side of the balance.

70. Courts could also consider relevant studies examining the effects of limiting various surveillance techniques. One recent study, for instance, found that subjecting telephone call logs to a warrant requirement resulted in fewer applications for wiretaps and a decrease in the duration of permitted wiretaps. ANNE E. BOUSTEAD, POLICE, PROCESS, AND PRIVACY: THREE ESSAYS ON THE THIRD PARTY DOCTRINE 18–20 (2016), https://www.rand.org/pubs/rgs_dissertations/RGSD384.html [https://perma.cc/3KFX-U299]. Its findings suggest that regulating the acquisition of call log data reduces police officers' ability to obtain sufficient probable cause for Wiretap Act applications. *Id.*

71. *See* Orin S. Kerr, *An Equilibrium-Adjustment Theory of the Fourth Amendment*, 125 HARV. L. REV. 476, 509 (2011) (explaining that the Supreme Court eliminated the warrant requirement for financial records following the rise of difficult-to-detect white-collar crimes); *see also* David Gray et al., *Fighting Cybercrime After* United States v. Jones, 103 J. CRIM. L. & CRIMINOLOGY 745, 777–78, 798 (2013) (discussing types of digital evidence that are especially helpful in detecting healthcare fraud and cyber harassment).

72. *See* BOUSTEAD, *supra* note 70, at 18–20.

73. *See* Paul G. Cassell & Richard Fowles, *What Caused the 2016 Chicago Homicide Spike? An Empirical Examination of the 'ACLU Effect' and the Role of Stop and Frisks in Preventing Gun Violence*, 2018 U. ILL. L. REV. 1581, 1665 (2018) (noting an increase in gun violence in the year following the cessation of programmatic stop-and-frisk searches in Chicago); *see also* Gary T. Marx, *Seeing Hazily (But Not Darkly) Through the Lens: Some Recent Empirical Studies of Surveillance Technologies*, 30 L. & SOC. INQUIRY 339, 348–49 (2005) (discussing the deterrent effects of video monitoring in interrogation rooms on violence by both detainees and the police).

goals. Reports issued by agencies tasked with independent evaluation, such as the Privacy and Civil Liberties Oversight Board, may also be helpful in assessing law enforcement efficacy.[74]

The consideration of law enforcement effectiveness is grounded in Fourth Amendment caselaw, although courts' treatment of it has been haphazard and unstructured. The Supreme Court has explicitly considered benefits to law enforcement in cases concerning the Fourth Amendment's scope,[75] and such benefits implicitly justify the results in countless other scope cases.[76] This consideration also helps determine the effective scope of the Amendment by shaping and limiting its remedies.[77]

74. *See* Daphna Renan, *The Fourth Amendment as Administrative Governance*, 68 STAN. L. REV. 1039, 1118–21 (2016) (explaining that the Privacy and Civil Liberties Oversight Board has access to classified information and can consult a wide breath of institutional and public opinion).

75. *See* Arizona v. Gant, 556 U.S. 332, 346–47 (2009) (mentioning the evidentiary interests of the police as a justification for maintaining a broad scope for the vehicular search incident to arrest doctrine); Hudson v. Palmer, 468 U.S. 517, 526–27 (1984) (discussing the need for decreased privacy rights for inmates in their cells due to the importance of detecting inmate crimes in a prison setting); United States v. Miller, 425 U.S. 435, 442–44 (1976) (citing 12 U.S.C. § 1829b(a)(1) (1970)) (noting the "high degree of usefulness in criminal tax, and regulatory investigations and proceedings" of bank record availability for law enforcement).

76. *See, e.g.*, Minnesota v. Carter, 525 U.S. 83, 90–91 (1998) (holding that the Fourth Amendment does not apply to temporary house guests who are not personal friends of the homeowner, in a case involving a drug sale); California v. Ciraolo, 476 U.S. 207, 213–14 (1986) (concluding that police officers are entitled to view a house's curtilage from any place where citizens can lawfully go, including airspace); *see also* United States v. Mohamud, 843 F.3d 420, 439–41 (9th Cir. 2016) (holding that no warrant is required to collect a U.S. citizen's emails to an overseas foreign national, when that foreign national is subject to a lawful search, in a case involving allegations of terrorism).

77. For example, the "good-faith exception" cases limit the application of the exclusionary rule in large part because of the rule's detrimental effects on law enforcement and criminal deterrence. *See, e.g.*, Pa. Bd. of Prob. & Parole v. Scott, 524 U.S. 357, 364–65 (1998) (internal quotation marks omitted) ("[T]he exclusionary rule . . . allows many who would otherwise be incarcerated to escape the consequences of their actions . . . . [T]he rule's costly toll upon truth-seeking and law enforcement objectives presents a high obstacle for those urging application of the rule."). Courts grant qualified immunity to law enforcement officers for violations of the Fourth Amendment for similar reasons. *See, e.g.*, Harlow v. Fitzgerald, 457 U.S. 800, 814 (1982) (justifying qualified immunity in part on concerns that a lack of immunity would deter law enforcement officers from performing their duties to the full extent).

At the level of theory, some concern for effective law enforcement is inherent in the existence of criminal laws. The theoretical justifications for criminal law enforcement are largely identical to those that justify criminal laws and punishments—the utilitarian benefits of deterrence, public safety, and rehabilitation;[78] the deontological values of justice and retribution;[79] or a pragmatic mixture of both.[80] Any normative balancing approach to regulating law enforcement must take law enforcement effectiveness into account.

2. Harms to Individuals

As discussed above, a workable normative test must capture the most substantial harms caused by government surveillance and be sufficiently administrable that judges can effectively apply the test.[81] Contextual and pragmatic theories of surveillance point the way towards a test that can meet both needs. They focus on the particular practices and relationships disrupted by surveillance.[82] This practical emphasis has several benefits. First, it can unify various theories of privacy and other Fourth Amendment values like liberty and trust by emphasizing their shared practical concerns rather than their abstract theoretical differences.[83] Second, the practical harms of surveillance are easier for judges to address than are esoteric theories of privacy or trust.[84]

The normative test proposed here combines a focus on disrupted practices and relationships with another category of fundamental harms: measurable psychological or physical harms suffered by the subjects of government investigations. By incorporating these factors, the test can capture the primary harms

78. *E.g.*, Joel Feinberg, *The Classic Debate*, *in* PHILOSOPHY OF LAW 727, 729 (Joel Feinberg & Jules Coleman eds., 6th ed. 2000).

79. *E.g.*, Michael T. Cahill, *Retributive Justice in the Real World*, 85 WASH. U. L. REV. 815, 826–28 (2007) (discussing "desert-based punishment" and necessity of punishment for "those who deserve it").

80. *E.g.*, Stephen P. Garvey, *Lifting the Veil on Punishment*, 7 BUFF. CRIM. L. REV. 443, 449–50 (2004) ("The mixed theory . . . unites the purpose of utilitarianism with the limits of retribution.").

81. *See supra* Part I.B.

82. *See supra* notes 65–71 and accompanying text.

83. *See generally* Solove, *supra* note 63 (discussing the theoretical differences between the leading privacy theories).

84. *Id.* at 1090 (discussing the difficulties judges face when conceptualizing privacy).

to individuals from government surveillance without requiring judges to grapple with abstract theories or societal expectations.

Although the test focuses on the pragmatic harms of surveillance, its focus is necessarily broad, addressing the surveillance technique used in the relevant case as a whole rather than in isolation. It does so by hypothesizing that the surveillance technique has become widespread and well-known, and asking how people's behavior would change as a result. This comprehensive approach is necessary for several reasons. First, a broad approach to the harms of surveillance is necessary to match the broad consideration of law enforcement benefits. The Supreme Court frequently considers the general benefits of surveillance to law enforcement, benefits that go beyond those realized in the instant case.[85] Courts should likewise consider the widespread harms of surveillance when evaluating potential Fourth Amendment searches.[86] Second, predicting the exact future prevalence of a surveillance technique or determining the likely extent of societal knowledge would be very difficult, especially for courts addressing novel surveillance technologies.[87] Finally, a broad assessment better aligns courts' analyses with the potential consequences of their decisions.[88] Fourth Amendment cases nearly always have broad implications. When a court rules that the police may dig through one defendant's trash bags without a warrant, the police can thereafter dig through the trash bags of any person in the court's jurisdiction.[89] By assessing surveillance techniques as a whole, the normative test appropriately focuses courts' attention on the actual impacts of their decisions.

85. *See supra* notes 75, 77.

86. *See* discussion *infra* Parts I.B.2.b–c.

87. *See* Tokson, *supra* note 13, at 164–79 (discussing the difficulties of measuring societal knowledge in even the most favorable circumstances).

88. *See, e.g.*, *infra* notes 239–41 and accompanying text.

89. *See* California v. Greenwood, 486 U.S. 35, 40 (1988). Resource constraints may prevent police departments from engaging in costly surveillance on a grand scale. For lower-cost types of surveillance or for national security matters, however, the government might actually surveil most or all citizens. Thus, courts might safely assume that the use of a costly surveillance technique would be less widespread than that of a cheap technique, potentially affecting the extent of the harm caused. For a detailed argument regarding surveillance costs and the importance of assessing surveillance technologies as a whole, see David Gray & Danielle Citron, *The Right to Quantitative Privacy*, 98 MINN. L. REV. 62, 101–03 (2013).

a. Deterring Lawful Activities

The first harm factor asks whether a given type of surveillance would cause people to avoid lawful activities. People engage in all manner of potentially sensitive, embarrassing, or controversial activities, like visiting a psychiatrist, researching sensitive subjects online, purchasing certain drugs or medical equipment, joining a substance-abuse support group, or criticizing government or social elites. These lawful activities can be deterred by the threat of surveillance. For example, Google searches for especially controversial or embarrassing terms decreased significantly following Edward Snowden's disclosure of an NSA program capable of capturing internet information.[90] Likewise, researchers documented a reduction in a wide variety of religious and social activities at New York mosques due to increased police surveillance after the September 11 attacks.[91]

Courts may assess deterrence of lawful activities by using studies that show reduced activity following increased awareness of surveillance.[92] Empirical studies on chilling effects have

Further, courts applying a normative test would primarily focus on the domestic law enforcement context but could also consider the domestic anti-terrorism context if doing so is helpful. By contrast, foreign intelligence surveillance may be exempt from the warrant requirement in any event, potentially making the question whether such surveillance is a "search" irrelevant. *See generally* United States v. Truong Dinh Hung, 629 F.2d 908, 913–15 (4th Cir. 1980) (concluding that "the courts should not require the executive to secure a warrant each time it conducts foreign intelligence surveillance," but noting that those reasons do not justify warrantless domestic surveillance).

90. *See* Alex Marthews & Catherine Tucker, Government Surveillance and Internet Search Behavior 7, 35–36 (Feb. 17, 2017) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2412564 (explaining embarrassing search terms were identified by poll respondents and included "abortion," "gender reassignment," "police brutality," and "tax avoidance").

91. *See* DIALA SHAMAS & NERMEEN ARASTU, MUSLIM AM. CIVIL LIBERTIES COAL. ET AL., MAPPING MUSLIMS: NYPD SPYING AND ITS IMPACT ON AMERICAN MUSLIMS 12–15 (2013), http://www.law.cuny.edu/wp-content/uploads/page-assets/academics/clinics/immigration/clear/Mapping-Muslims.pdf [https://perma.cc/8PCY-8583].

92. *See, e.g.*, Marthews & Tucker, *supra* note 90; Jonathon W. Penney, *Chilling Effects: Online Surveillance and Wikipedia Use*, 31 BERKELEY TECH. L.J. 117, 146–57 (2016) (finding that views of Wikipedia articles on sensitive topics decreased significantly following the Snowden revelations); *see also* MICHAEL MCCAHILL, THE SURVEILLANCE WEB: THE RISE OF VISUAL SURVEILLANCE IN AN ENGLISH CITY 145 (2002) (discussing the effects of video monitoring

become increasingly common in recent years.[93] Courts may also rely on expert witnesses or amicus briefs from professional associations noting the lawful activities that a type of surveillance may discourage, as the Supreme Court did in *Ferguson v. City of Charleston*.[94]

Moreover, judges are likely to be able to assess deterrence of lawful activities even in situations where there are no directly relevant studies. Whether surveillance would deter a person from engaging in lawful activities is a question that judges can fruitfully address through reasoning and intuition: "if I were being surveilled by government agents using the technique at issue in this case, would I be likely to forego certain activities?" For example, a judge assessing long-term video monitoring by drones might recognize that she would likely curtail her activities in public and in the back yard of her home because of the monitoring. This likely reduction in lawful activity would weigh in favor of requiring a warrant for long-term drone surveillance. Judges are likely to be more successful in forming intuitions about how their own activities would be impacted by surveillance than grappling with abstract theories of privacy or attempting to calculate societal expectations.[95]

on the social behavior of mall security guards); Darhl M. Pedersen, *Psychological Functions of Privacy*, 17 J. ENVTL. PSYCHOL. 147, 150–52 (1997) (presenting survey results evaluating everyday activities that depend upon privacy).

93. *See, e.g.*, PEN AM. CTR, CHILLING EFFECTS: NSA SURVEILLANCE DRIVES U.S. WRITERS TO SELF-CENSOR 3 (2013) (reporting that 28% of surveyed writers had curtailed social media activities out of concerns about surveillance, while 16% had avoided writing or speaking about certain subjects); Jonathon W. Penney, *Internet Surveillance, Regulation, and Chilling Effects Online: A Comparative Case Study*, 6 INTERNET POL'Y REV. 1, 1–3 (2017) (reporting survey evidence that government surveillance of the internet would reduce online speech, make speakers more guarded in terms of the content of their online speech, and chill online searching).

94. 532 U.S. 67, 84 n.23 (2001) (noting that the American Medical Association and other groups filing amicus briefs agreed that drug testing of pregnant patients' urine would deter women who use drugs from seeking prenatal care).

95. One might object that judges applying the *Katz* test can already use personal intuitions about whether they would expect privacy. Aside from the myriad problems with using anyone's expectations as a barometer for Fourth Amendment protection, *see supra* notes 6–9 and accompanying text, judicial intuition regarding privacy expectations is likely to be systematically biased against privacy interests. *See* Tokson, *supra* note 13, at 172–73 (describing various cognitive biases that may affect judicial intuitions about privacy expectations). Expectations of privacy are inextricably linked to knowledge regarding surveillance and privacy threats. *See id.* at 149–50 ("What a person expects is

Judicial intuitions are, of course, not infallible and are subject to inaccuracy and bias.[96] Social science studies provide more objective evidence but are likewise imperfect and prone to misinterpretation.[97] This Article does not argue that judges will employ either source of information perfectly. It does contend that judicial intuition is better suited for assessing surveillance's dampening effects on activities and relationships than for intuiting the state of societal expectations of privacy.[98] Moreover, there is an extensive social science literature on surveillance harms that can aid judges in their assessments.[99]

Courts are likely able to evaluate surveillance's potential impact on lawful activities—indeed, they have already done so in several cases. In *Zurcher v. Stanford Daily*, the Court exam-

largely a function of what they know."). Judges will generally have unusually high levels of knowledge regarding the surveillance technique at issue—the parties will have informed them at length about the technology in their pleadings and briefs. Thus, they may expect less privacy in a given context than the vast majority of people. Further, judges' acquired knowledge is likely to bias their intuitive judgments about societal knowledge in general. Individuals tend to automatically and irrationally impute their own knowledge to other people, even when those people are extremely unlikely to know it. *See* Boaz Keysar et al., *States of Affairs and States of Mind: The Effect of Knowledge of Beliefs*, 64 ORGANIZATIONAL BEHAV. & HUM. DECISION PROCESSES 283, 284 (1995) ("[O]nce people know what speakers intend, they believe that addressees will perceive the same intention—even when addressees lack the crucial piece of information which is necessary to understand the speakers' intention.").

96. *See* Tokson, *supra* note 13, at 172–73 (explaining that by the time judges decide a case, they have so much knowledge about the issue they may intuitively overestimate societal knowledge).

97. *See* J. Alexander Tanford, *The Limits of a Scientific Jurisprudence: The Supreme Court and Psychology*, 66 IND. L.J. 137, 145 (1990).

98. *See supra* note 95.

99. There is a smaller but growing collection of surveys about surveillance and privacy expectations that can assist judges in assessing such expectations under *Katz*. *See* Brief of Amici Curiae Empirical Fourth Amendment Scholars in Support of Petitioner at 4–10, Carpenter v. United States, 138 S. Ct. 2206 (2018) (No. 16-402), 2018 WL 3073916 (discussing studies that ask respondents about their expectations of privacy). Courts have thus far been reluctant to employ such data, and people's reported expectations may not match their behavior or may be more aspirational than actual. *See* Tokson, *supra* note 13, at 180. Nonetheless, the use of empirical studies of societal expectations and knowledge would likely improve the accuracy of courts' decisions under the *Katz* test. *Id.* However, the many conceptual flaws of the *Katz* test itself recommend abandoning the test even if courts were able to adjudicate it perfectly. *See, e.g.*, *id.* at 181–87.

ined whether police searches of newspaper offices would interfere with the newspaper's operations, dissuade confidential sources from coming forward, motivate editors to suppress controversial news stories, or "intrude into or to deter normal editorial and publication decisions."[100] Likewise, in cases involving searches and seizures of expressive materials, the Court has emphasized the need for the rigorous application of Fourth Amendment protections to prevent the stifling of legitimate book distribution or movie displays.[101] Nor has this principle been limited to cases involving expressive activities. In *Ferguson v. City of Charleston*, the Supreme Court held that a public hospital's program of drug testing pregnant women's urine violated the Fourth Amendment, noting that medical professionals apparently agreed that such programs "discourag[ed] women who use drugs from seeking prenatal care."[102]

A concern with the deterrence of legitimate activities also has roots in pragmatic theories of privacy. Pragmatic theories explicitly focus on concrete practices and conceive of privacy as a constitutive part of such practices.[103] Accordingly, they define privacy harms in terms of disruptions to practices.[104] In a similar vein, the theory of intellectual privacy emphasizes surveillance's ability to chill activities of intellectual development and expression, from reading library books to web-surfing to writing and speaking.[105] These theories provide a compelling account of the potential chilling effects of surveillance and the value of privacy-

100. 436 U.S. 547, 566 (1978).

101. *See, e.g.*, Roaden v. Kentucky, 413 U.S. 496, 504–05 (1973) (expressing concerns about police searches and seizures suppressing legitimate displays of movies); Quantity of Copies of Books v. Kansas, 378 U.S. 205, 211–13 (1964) (holding that an overbroad warrant was unconstitutional in part because of its potential for deterring the publication of legitimate books). Justice Sotomayor recently expressed concern about the potential for surveillance to "chill[] . . . expressive freedoms." United States v. Jones, 565 U.S. 400, 416 (2012) (Sotomayor, J., concurring).

102. Ferguson v. City of Charleston, 532 U.S. 67, 84 n.23 (2001).

103. Solove, *supra* note 63, at 1127–30.

104. *See id.* at 1129. An essential characteristic of a pragmatic theory is that it "focus[es] on the specific types of disruption and the specific practices disrupted rather than looking for the common [theoretical] denominator that links all of them." *Id.* at 1130.

105. *See* Richards, *supra* note 65, at 389, 421 ("Intellectual privacy is the ability . . . to develop ideas and beliefs away from the unwanted gaze or interference of others.").

dependent practices. There are, however, other fundamental harms caused by government surveillance that a Fourth Amendment normative model must incorporate.[106]

b. Harm to Relationships

The second harm factor asks whether a surveillance practice would interfere with or diminish interpersonal relationships. Surveillance might harm such relationships by compromising intimate communications, deterring relationship formation, or diminishing the depth or quality of intimate relationships via the threat of observation.

Relationships with others are both extremely important to people's well-being and particularly dependent on privacy to flourish.[107] An important aspect of personal relationships is "the sharing of information about one's actions, beliefs or emotions which one does not share with all."[108] By protecting such personal information from general observation, "privacy creates the moral capital which we spend in friendship and love."[109] Surveillance can easily disrupt personal relationships by deterring unfettered communication,[110] disrupting intimacy,[111] inducing self-consciousness and self-censorship,[112] or causing social embarrassment or condemnation.[113]

106. *See infra* Parts I.B.2.b–c.

107. *See* Lior Jacob Strahilevitz, *A Social Networks Theory of Privacy*, 72 U. CHI. L. REV. 919, 923–24 (2005).

108. CHARLES FRIED, AN ANATOMY OF VALUES: PROBLEMS OF PERSONAL AND SOCIAL CHOICE 142 (1970).

109. *Id.*

110. *See* Richards, *supra* note 65, at 424 ("Our confidants are a source of new ideas and information, but without confidentiality they may be reluctant to share subversive or deviant thoughts with us lest others overhear.").

111. Robert S. Gerstein, *Intimacy and Privacy*, *in* PHILOSOPHICAL DIMENSIONS OF PRIVACY: AN ANTHOLOGY 268–69 (Ferdinand D. Schoeman ed., 1984) (explaining that surveillance disrupts the development and experience of intimacy by creating pressure of observation).

112. *Id.*

113. *See* James Rachels, *Why Privacy Is Important*, *in* PHILOSOPHICAL DIMENSIONS OF PRIVACY: AN ANTHOLOGY, *supra* note 111, at 293–96 ("[S]eparation allows us to behave with certain people in the way that is appropriate to the sort of relationship we have with them."); *see also* Helen Nissenbaum, *Privacy as Contextual Integrity*, 79 WASH. L. REV. 119, 138–39 (2004) ("[N]orms of appropriateness dictate what information about persons is appropriate, or fitting, to reveal in a particular context.").

If a surveillance technique is likely to prevent people from expressing private, provocative, or intimate thoughts to each other, then that would weigh in favor of finding a Fourth Amendment search. Courts may assess a surveillance technique's impacts on relationships by, for instance, examining studies showing that the technique decreases or diminishes personal communications.[114] Judges can also usefully intuit the impact of outside surveillance on relationships. The effects of observation by others on personal communications are generally easy to comprehend. Virtually everyone has had the experience of moderating or ceasing a conversation due to potential overhearing by another such as a parent, teacher, stranger, or co-worker.

The Supreme Court has not expressly analyzed interference with personal relationships in the Fourth Amendment context, but it has repeatedly protected personal communications from government surveillance and emphasized the importance of unfettered discourse. In the majority opinion in *Katz*, the Court subjected telephone conversations to a warrant requirement, grounding its holding in its recognition of "the vital role that the public telephone has come to play in private communication."[115] In one of the earliest Supreme Court Fourth Amendment cases, the Court declared that sealed letters could not be inspected without a search warrant.[116] Recently, a Sixth Circuit case concluded that the Fourth Amendment should generally protect the contents of emails, lest it "prove an ineffective guardian of private communication, an essential purpose it has long been recognized to serve."[117] This essential purpose has been obscured to

114. *See* Carl Botan, *Communication Work and Electronic Surveillance: A Model for Predicting Panoptic Effects*, 63 COMM. MONOGRAPHS 293, 307, 309–10 (1996) (finding that workers under surveillance engaged in fewer personal communications); R.H. Irving et al., *Computerized Performance Monitoring Systems: Use and Abuse*, 29 COMM. ACM 794, 799 (1986) (finding computer monitoring to be correlated with a decrease in the quality of peer relationships).

115. Katz v. United States, 389 U.S. 347, 352 (1967).

116. *Ex parte* Jackson, 96 U.S. 727, 733 (1877).

117. Warshak v. United States, 631 F.3d 266, 286 (6th Cir. 2010) (recognizing the Fourth Amendment's protection of "conversational privacy" (citing United States v. U.S. Dist. Court, 407 U.S. 297, 313 (1972))).

some degree by the confusions of the *Katz* test, but courts continue to protect personal communications even when current doctrine seems to suggest doing otherwise.[118]

Outside of Fourth Amendment law, the Supreme Court has recognized the importance of intimate relationships to human well-being and has vigorously protected these relationships from unnecessary state interference.[119] Laws that might adversely affect marriages, parent-child relationships, non-marital romantic relationships, cohabitation, and others have been struck down as unconstitutional infringements on intimate relationships.[120] The Court's longstanding recognition of the importance of these relationships provides another basis for weighing harm to such relationships in a normative Fourth Amendment analysis.

Intimacy and personal relationships have long been a central focus of privacy theory, and more recent developments in surveillance theory have specifically examined the potential for surveillance to disrupt relationships. Scholars have explored intimacy as an important component of privacy since the 1970s,[121] developing various accounts of the values of private relationships and the perniciousness of judgmental or exploitative observation.[122] Recently, contextual theories of privacy have explored the disparate norms of information flow that govern various relationships.[123] Surveillance can harm these associations not only

118. *See id.* at 287 (refusing to create a bright-line rule protecting emails and noting that protecting emails is somewhat in tension with the reasoning of *Miller v. United States*, 425 U.S. 435 (1976)).

119. Roberts v. U.S. Jaycees, 468 U.S. 609, 619 (1984) (collecting cases).

120. *See, e.g.*, Carey v. Population Servs. Int'l, 431 U.S. 678, 684–86 (1977) (non-marital intimacy); Moore v. City of East Cleveland, 431 U.S. 494, 503–04 (1977) (plurality opinion) (cohabitation); Wisconsin v. Yoder, 406 U.S. 205, 232 (1972) (parent-child); Griswold v. Connecticut, 381 U.S. 479, 485–86 (1965) (marriage); *see also* NAACP v. Alabama *ex rel.* Patterson, 357 U.S. 449, 460–62 (1958) (striking down, on due process grounds, a law likely to deter citizens from associating with others for the purposes of advocacy).

121. *See, e.g.*, FRIED, *supra* note 108, at 142 (discussing intimacy as it relates to love and friendship and the necessity of privacy for those relationships to flourish); Gerety, *supra* note 54, at 268, 273 (compiling cases).

122. *See, e.g.*, JULIE C. INNESS, PRIVACY, INTIMACY, AND ISOLATION 57–58, 61–63 (1992) (exploring the connection between intimate information, access, and decision making); Gerstein, *supra* note 111, at 267–69.

123. Nissenbaum, *supra* note 113, at 138–39 ("Generally, these norms circumscribe the type or nature of information about various individuals that, within a given context, is allowable, expected, or even demanded to be revealed.

when these norms are violated and information is spread too widely, but also when the fear of observation prevents the communication necessary to maintain these relationships.[124] Intimacy, privacy, and communication are essential components of personal relationships, and our understanding of the roles they play has grown substantially in recent years.

c. Psychological and Physical Injury

The third factor asks whether people will suffer psychological or physical injury as a result of surveillance. The impact of surveillance goes beyond the substantial effects it can have on people's activities and relationships. Even in the absence of such effects, the targets of surveillance can suffer personal harm from the observation, judgment, fear, and occasional use of physical force associated with government investigations.[125]

Under this factor, evidence that a surveillance technique will likely cause stress, depression, or physical harm would weigh in favor of Fourth Amendment protection. The injuries captured here include not only violations of privacy but also a variety of other important harms, including discrimination, police coercion, and physical harm.[126] In many cases, judges may be able to reason about or intuit such harms. For instance, they can conclude that constant visual monitoring of a subject will result in stress or that stop-and-frisk techniques will be associated with aggressive physical force. There are, moreover, an increasing number of studies and reports that demonstrate measurable psychological and physical harms from surveillance.[127]

The rich and growing social science literature on the personal harms of surveillance has been largely ignored in existing Fourth Amendment scholarship. Yet it can provide a way for judges to concretize and measure internal privacy harms in a normative Fourth Amendment analysis. For example, studies of computer keystroke monitoring, telephone monitoring, and related practices have found a variety of psychological harms suf-

In medical contexts, it is appropriate to share details of our physical condition . . . among friends we may pour over romantic entanglements . . . .").

124. *See id.*

125. *See infra* notes 139–45.

126. *See infra* Part III.C.

127. *See infra* notes 128–33 and accompanying text.

fered by the targets of surveillance, including stress, anger, fatigue, depression, irritation, and infantilization.[128] Researchers have also measured the physical and psychosomatic harms produced by surveillance, such as muscle pain and headaches.[129] Studies of video monitoring show that subjects feel discomfort and agitation, as well as a feeling of being mistrusted.[130] Research into stop-and-frisks and related police investigations demonstrate that a history of police contact is correlated with higher anxiety and stress, while stop-and-frisk frequency and invasiveness is correlated with symptoms of PTSD.[131] Studies of civilians subjected to consent searches of their vehicles reported persistent negative thoughts and attitudes about the encounter, as well as feelings of violation and bitterness.[132] These reports can be augmented with the numerous studies in which respondents rate the perceived invasiveness of various surveillance practices including location tracking, social media monitoring, and

128. *See, e.g.*, Lawrence M. Schleifer et al., *Mood Disturbance and Musculoskeletal Discomfort Effects of Electronic Performance Monitoring in a VDT Data-Entry Task*, *in* ORGANIZATIONAL RISK FACTORS FOR JOB STRESS 195 (Steven L. Sauter & Lawrence R. Murphy eds., 1995) (psychological and musculoskeletal strain); Carl Botan & Mihaela Vorvoreanu, *"What Are You Really Saying to Me?" Electronic Surveillance in the Workplace*, CERIAS TECH REPORT, June 2000, at 9–10, http://www.antoniocasella.eu/nume/Botan_2000.pdf [https://perma.cc/J68P-ELEM] (distrust and lack of motivation); Irving, *supra* note 114, at 799 (stress and "decrease in the quality of relationships with peers, supervisors, and senior management"); M. J. Smith et al., *Employee Stress and Health Complaints in Jobs with and Without Electronic Performance Monitoring*, 23 APPLIED ERGONOMICS 17, 21–22 (1992) (anxiety, depression, anger, health complaints, and fatigue).

129. *E.g.*, Schleifer et al., *supra* note 128, at 195; Smith et al., *supra* note 128, at 21–22.

130. Emmeline Taylor, *I Spy with My Little Eye: The Use of CCTV in Schools and the Impact on Privacy*, 58 SOC. REV. 381, 391–93 (2010); *see also* MCCAHILL, *supra* note 93, at 15–16 (discussing the discriminatory harms that CCTV facilitates).

131. Amanda Geller et al., *Aggressive Policing and the Mental Health of Young Urban Men*, 104 AM. J. PUB. HEALTH 2321, 2323–24 (2014); Abigail A. Sewell et al., *Living Under Surveillance: Gender, Psychological Distress, and Stop-Question-and-Frisk Policing in New York City*, 159 SOC. SCI. & MED. 1, 2, 6–7 (2016).

132. Janice Nadler, *No Need to Shout: Bus Sweeps and the Psychology of Coercion*, 2002 SUP. CT. REV. 153, 212–13 (2002). One respondent noted that the police encounter produced "an empty feeling, like you're nothing." *Id.* at 212. Another said, "I feel really violated . . . . I feel really bitter about the whole thing." *Id.*

internet data collection.[133] Together, these studies constitute a detailed and wide-ranging account of the internal harms of surveillance.

This is not to say that every surveillance technique found to cause stress or discomfort in a study should be considered a search. Rather, these and similar studies can help to quantify the harms of surveillance and are accordingly relevant to the question of the Fourth Amendment's scope. The fact that a surveillance technique is linked to stress or pain is just one factor of several in the proposed normative test, and the relevant social science will rarely be definitive in any event. Moreover, not every surveillance situation confronted by courts will have been addressed in an existing study of surveillance's concrete harms.

Yet, courts can usefully test their intuitions about the harms caused by surveillance against the available evidence, taking empirical data into account as they have in a wide variety of constitutional and other cases, including *Brown v. Board of Education*,[134] *Roper v. Simmons*,[135] and countless others.[136] Courts can

133. Tamara Dinev et al., *Internet Privacy Concerns and Beliefs About Government Surveillance—An Empirical Investigation*, 17 J. STRATEGIC INFO. SYS. 214, 223 (2008); Yongick Jeong & Erin Coyle, *What Are You Worrying About on Facebook and Twitter? An Empirical Investigation of Young Social Network Site Users' Privacy Perceptions and Behaviors*, 14 J. INTERACTIVE ADVERT. 51, 55 (2014); Laurel A. McNall & Jeffrey M. Stanton, *Private Eyes Are Watching You: Reactions to Location Sensing Technologies*, 26 J. BUS. PSYCHOL. 299, 304 (2011); Christopher Slobogin, *Government Data Mining and the Fourth Amendment*, 75 U. CHI. L. REV. 317, 335 (2008); Christopher Slobogin, *Public Privacy: Camera Surveillance of Public Places and the Right to Anonymity*, 72 MISS. L. J. 213, 275–76 (2002); Christopher Slobogin & Joseph E. Schumacher, *Reasonable Expectations of Privacy and Autonomy in Fourth Amendment Cases: An Empirical Look at "Understandings Recognized and Permitted by Society,"* 42 DUKE L.J. 727, 737–39 tbl.1 (1993); Tokson, *supra* note 5, at 622–26.

134. 347 U.S. 483, 494 n.11 (1954).

135. 543 U.S. 551, 569–70 (2005).

136. *See, e.g.*, Riley v. California, 134 S. Ct. 2473, 2489–91 (2014) (discussing phone usage statistics to demonstrate that searching a cell phone is different and more invasive than other types of searches); Graham v. Florida, 560 U.S. 48, 68–69 (2010) (discussing scientifically established psychological differences between adults and minors); Hodgson v. Minnesota, 497 U.S. 417, 469–70 (1990) (discussing studies and testimony regarding the effects of involuntary disclosure between parents and children in analyzing a law requiring teens to consult with their parents before obtaining access to abortions); City of Renton v. Playtime Theatres, Inc., 475 U.S. 41, 50–52 (1986) (holding that the City was permitted to rely on studies performed by other cities to demonstrate the impact of

also draw useful comparisons between known surveillance harms and those likely to be suffered in analogous cases. Moreover, judges and juries already conduct a somewhat similar inquiry in personal injury cases, where they assess damages for psychological pain and suffering.[137]

3. Less Invasive Means

Finally, the normative test incorporates a requirement that courts consider whether there is a less invasive practice that could reveal roughly the same information as the challenged practice. If a surveillance technique is invasive or affects an entire population, and a less invasive, feasible alternative exists, that would weigh in favor of finding a Fourth Amendment search. If alternative techniques would not be as effective or would be prohibitively costly, that would weigh against finding a search.

Courts currently apply a similar, albeit stricter, standard in cases involving the Wiretap Act, which directs the government to show that it has attempted less invasive surveillance before applying for a wiretap.[138] In Fourth Amendment law, the Supreme Court has expressly considered the availability of less invasive means when assessing the constitutionality of conducting blood tests on suspected drunk drivers.[139] This factor is also

adult theaters on the community before enacting its adult theater zoning ordinance). Social science and other scientific research are also routinely analyzed in administrative law cases. *See, e.g.*, Lorillard Tobacco Co. v. Reilly, 533 U.S. 525, 559–60 (2001) (explaining FDA studies of the effects of smokeless tobacco and cigar use on teens).

137. Tokson, *supra* note 13, at 199; *see* Sean Hannon Williams, *Self-Altering Injury: The Hidden Harms of Hedonic Adaptation*, 96 CORNELL L. REV. 535, 543–44 n.42 (2011) (collecting cases involving hedonic damages). The inquiry proposed here would likely be substantially easier, as the psychological harm from surveillance need only be situated somewhere on the general scale from low to high and would not have to be translated into a precise money value. Fact finders tend to be far more consistent in performing the former calculation than the latter. Cass R. Sunstein et al., *Assessing Punitive Damages (with Notes on Cognition and Valuation in Law)*, 107 YALE L.J. 2071, 2097–103, 2099 tbl.1 (1998) (finding that mock jurors assessing various hypothetical cases tend to give consistent rankings of blameworthiness but very different damages awards).

138. *See* 18 U.S.C. § 2518(1)(c) (2012); United States v. Carter, 449 F.3d 1287, 1293 (D.C. Cir. 2006).

139. Birchfield v. North Dakota, 136 S. Ct. 2160, 2184, (2016) (holding that

based in part on the intermediate scrutiny test in free speech law, which directs courts to approve restrictions on certain types of speech only if the restrictions do not burden substantially more speech than is necessary to serve a significant government interest.[140] Similarly, the existence here of a potentially less restrictive alternative would not definitively render a surveillance technique unlawful, but it would be a factor that favors applying a warrant requirement.[141]

C. OMITTED FACTORS

The proposed test, like any Fourth Amendment test, cannot incorporate every potential surveillance harm or every abstract Fourth Amendment value without devolving into a "totality of the circumstances" standard.[142] Accordingly, the test does not analyze every circumstance or examine every theory that might bear on the normative assessment of a surveillance practice. Conceptually, it emphasizes pragmatic and contextual theories of surveillance rather than more abstract theories that center on control over information, autonomy, or personality development.[143] The latter theories operate at too high a level of abstraction to be useful in a legal test. The normative approach proposed here focuses on the more concrete harms of surveillance in order to remain workable for judges and capable of consistent application.

police officers cannot warrantlessly conduct blood tests incident to arrest because "[b]lood tests are significantly more intrusive [than breath tests], and their reasonableness must be judged in light of the availability of the less invasive alternative of a breath test").

140. *See* Ward v. Rock Against Racism, 491 U.S. 781, 799 (1989).

141. *See* Bd. of Trs. of the State Univ. of N.Y. v. Fox, 492 U.S. 469, 480 (1989) (explaining that intermediate scrutiny requires only a reasonable fit between means and ends and does not require that the government select the least restrictive means possible).

142. This is not to say that totality of the circumstances tests are entirely foreign to Fourth Amendment law. *See e.g.*, *Birchfield*, 136 S. Ct. at 2189 (assessing the exigent circumstances exception to the warrant requirement using a totality of the circumstances test).

143. *E.g.*, Anita L. Allen, *Coercing Privacy*, 40 WM. & MARY L. REV. 723, 738 (1999) ("Privacy has value relative to normative conceptions of spiritual personality, political freedom, health and welfare, human dignity, and autonomy."); Charles Fried, *Privacy*, 77 YALE L.J. 475, 482 (1968) (defining privacy as "the control we have over information about ourselves").

Yet the test's focus on foregone activities and the psychological harms of surveillance can also capture many of the concerns that drive the more abstract theories of privacy. Consider theories of privacy and autonomy, which focus on the need to preserve a private zone within which individuals can develop and choose free of social coercion.[144] Such coercion can cause the targets of surveillance to conform their behavior to perceived social norms by foregoing legitimate but potentially embarrassing activities.[145] And the social pressures inherent in many forms of surveillance can result in psychological stress and harm.[146] These foregone activities and psychological harms would be captured by the normative test. Likewise, the test's consideration of physical harms resulting from police investigatory activity is in accord with theories of privacy that focus on bodily integrity and personal dignity.[147] These more abstract values are captured, at least in part, by the proposed test, even though they are not overtly included.

In any event, the impossibility of capturing every surveillance harm in a single test mirrors the impossibility of capturing every facet of law enforcement benefit. Both the deterrence effects and the retributivist values served by law enforcement are unlikely to be fully captured, for instance. Any workable balancing test will elide some quantum of harm and benefit on both sides. One of the virtues of such tests is that they typically leave out far less than other types of legal standards.[148]

The normative test also reflects a variety of the more abstract Fourth Amendment values identified by courts and scholars, such as privacy, liberty, or security.[149] One advantage of a pragmatic approach is that the practical harms of surveillance

144. *See* Cohen, *supra* note 56, at 1377, 1424.

145. Julie E. Cohen, *Privacy, Visibility, Transparency, and Exposure*, 75 U. CHI. L. REV. 181, 186 (2008); Richards, *supra* note 65, at 403–04.

146. *See supra* Part I.B.2.c.

147. *See, e.g.*, Radhika Rao, *Property, Privacy, and the Human Body*, 80 B.U. L. REV. 359, 388 (2000).

148. *See infra* Part III.A.

149. *See* Christopher Slobogin, *A Defense of Privacy as the Central Value Protected by the Fourth Amendment's Prohibition on Unreasonable Searches*, 48 TEX. TECH L. REV. 143, 157–62 (2015) (collecting studies identifying different but closely related Fourth Amendment principles).

are often common denominators among the various abstract theories of Fourth Amendment principles.[150] Indeed, to the extent that courts and historians have identified a single general purpose of the Fourth Amendment, that purpose is itself more functional than abstract: to protect citizens from arbitrary government intrusions.[151] Given this shared practical foundation, it is unsurprising that the various theories of Fourth Amendment values overlap more than they conflict.[152] The common functional goals of these various Fourth Amendment "search" theories are largely captured by the proposed test.[153]

II. DOCTRINAL AND THEORETICAL FOUNDATIONS OF FOURTH AMENDMENT BALANCING

In setting out the normative model, the previous Part discussed some of the legal and theoretical foundations of its factors. This Part briefly examines doctrinal, historical, and theoretical support for a normative balancing approach in general. The Fourth Amendment's text and its broader purposes are consistent with the balancing of law enforcement benefits against the costs of surveillance.[154] The language and history of the Amendment evince a concern with effective law enforcement as

150. *See, e.g.*, Thomas P. Crocker, *From Privacy to Liberty: The Fourth Amendment After* Lawrence, 57 UCLA L. REV. 1, 18 (2009) (discussing state intrusions on same-sex intimacy and noting the link between principles of liberty and the protection of intimate relationships); Radhika Rao, *Reconceiving Privacy: Relationships and Reproductive Technology*, 45 UCLA L. REV. 1077, 1101–07 (1998) (discussing state intrusions on private decisions surrounding relationships and arguing that the right of privacy is fundamentally a right of protection of personal relationships).

151. *See, e.g.*, United States v. Verdugo-Urquidez, 494 U.S. 259, 266 (1990) ("[T]he purpose of the Fourth Amendment was to protect the people of the United States against arbitrary action by their own Government."); Wolf v. Colorado, 338 U.S. 25, 28–29 (1949) (holding that the Fourth Amendment's protection against arbitrary intrusion by the police is part of the Due Process guaranteed by the Fourteenth Amendment); Davies, *supra* note 67, at 556 (discussing "the larger purpose for which the Framers adopted the text; namely to curb the exercise of discretionary authority by officers").

152. John D. Castiglione, *Human Dignity Under the Fourth Amendment*, 2008 WIS. L. REV. 655, 675 (2008); Slobogin, *supra* note 149, at 152–54.

153. *See* U.S. CONST. amend. IV. The Fourth Amendment also protects against unreasonable "seizures," a separate prohibition than the one addressed here and one that embodies the values of protection of property and freedom from arrest.

154. *See infra* Part II.A.

well as citizen privacy.[155] Moreover, both the leading originalist interpretation of the Amendment and less formalist theories of construction point to a balancing approach.

A. THE FOURTH AMENDMENT'S BALANCE

Balancing is inherent in Fourth Amendment law, as reflected in the Amendment's history, language, and purposes. The very concept of warrants supported by "probable cause"[156] contemplates a balancing between law enforcement interests and citizen privacy.[157] The government can obtain a search warrant only if it has sufficient cause to believe the search will uncover a crime.[158] Once the government has sufficient cause, it can search citizens and their property despite the considerable harms to privacy and liberty that might result.[159] Indeed, the police can enter the house of a totally innocent person to arrest a criminal or seize contraband possessed by a houseguest.[160] Neither the interests of individuals in avoiding government intrusions nor the interests of law enforcement are absolute.

Founding-era practices likewise evinced a non-absolutist approach to searches and seizures. Unlawful searches were addressed with civil liability rather than the exclusion of evidence.[161] The trespass actions that provided a basis for Fourth Amendment protection were themselves tempered by doctrines

155. *See infra* Part II.B.

156. *See infra* Part II.B.

157. *See infra* Part II.B.

158. *See* Illinois v. Gates, 462 U.S. 213, 243–46 (1983).

159. *See* Michigan v. Summers, 452 U.S. 692, 703 (1981) (noting that a warrant gives the police "a special authorization to thrust themselves into the privacy of a home" as well as the authority to physically detain occupants of the home while it is searched for contraband).

160. *See* Steagald v. United States, 451 U.S. 204, 213, 222 (1981) (stating that the police could enter the house of an innocent third party to arrest a felon if they had a search warrant or probable cause and exigency).

161. *See, e.g.*, Entick v. Carrington, [1765] 95 Eng. Rep. 807 (K.B.).

of necessity, which allowed trespasses when necessary to prevent public or private harm.[162] Unwarranted invasions were generally excused if contraband was discovered.[163] In each situation, citizens' protections against government intrusions were counterweighted by other values and defeasible in cases involving probable cause, public or private necessity, or actual guilt.[164]

The balancing inherent in Fourth Amendment law does not dictate that courts must balance when examining the scope of the Amendment—perhaps balancing should be confined to other aspects of Fourth Amendment law or eschewed altogether.[165] But a normative balancing test for scope is consistent with the structure and traditional practice of the Fourth Amendment.

B. TEXT, ORIGINALISM, AND DETERMINACY

The Fourth Amendment prohibits "unreasonable searches," a phrase that is not defined and is susceptible to a wide variety of meanings.[166] The dominant view of the Fourth Amendment is that its text and history are of little or no help in determining its scope.[167] Yet, a number of scholars contend that the scope of the Amendment is determinable by reference to the original public meaning of the relevant phrase.[168]

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162. *See, e.g.*, Campbell v. Race, 61 Mass. (7. Cush.) 408, 410–11 (1851) (collecting American and English sources describing the common law rule that encroachment on private property was permitted when a highway becomes impassable); Mouse's Case, [1608] 77 Eng. Rep. 1341 (K.B.) 1342 (finding that property may be trespassorily destroyed if necessary to save lives).

163. *See, e.g.*, Gelston v. Hoyt, 16 U.S. 246, 310 (1818); Akhil Reed Amar, *Fourth Amendment First Principles*, 107 HARV. L. REV. 757, 767 (1994) (collecting sources).

164. *See supra* notes 160–63.

165. *See* discussion *infra* Part IV.C.

166. *See* Matthew Tokson, *Blank Slates*, 59 B.C. L. REV. 591, 627–30 (2018).

167. *See, e.g.*, Amsterdam, *supra* note 6, at 395; Orin S. Kerr, *The Curious History of Fourth Amendment Searches*, 2012 SUP. CT. REV. 67, 70.

168. *See, e.g.*, Brief of Scholars of the History and Original Meaning of the Fourth Amendment as Amici Curiae in Support of Petitioner at 2, Carpenter v. United States, 138 S. Ct. 2206 (2018) (No. 16-402), 2017 WL 3530961 [hereinafter Originalist Scholars Amicus Brief]; DAVID GRAY, THE FOURTH AMENDMENT IN AN AGE OF SURVEILLANCE 251 (2017); Amar, *supra* note 163, at 767. There are other forms of originalist interpretation, including "original methods originalism," which recommend interpreting the Constitution by reference to the methods of legal interpretation used at the time of the Founding. *See, e.g.*, John O. McGinnis & Michael B. Rappaport, *Original Methods Originalism: A New Theory of Interpretation and the Case Against Construction*, 103 NW. U. L.

This Article does not undertake to resolve this debate, because it need not resolve it—both major views of the determinism of the Fourth Amendment's text are consistent with the normative balancing approach. Indeed, both counsel weighing the harms of surveillance against law enforcement justifications in order to determine which investigations the police can perform without any quantifiable suspicion.[169] This Section explores theories regarding the determinacy of the Fourth Amendment and shows how they provide further support for Fourth Amendment balancing.

1. Fourth Amendment Searches as Textually Determinate

Several Fourth Amendment scholars have argued that the term "search" in the context of the Fourth Amendment gives specific guidance as to the scope of the Amendment.[170] They contend that the Amendment applies to any "search" in the broadest sense of that term, meaning any act of seeking, gathering information, or looking at something.[171] Thus a government official looking at a house or a crowd of people would be conducting a warrantless Fourth Amendment search.[172] Many such searches would be lawful, however, because they would be "reasonable."[173] Reasonableness would no longer require a warrant supported by probable cause as a default rule; instead, reasonableness would be a more general inquiry into whether a search had a "good and sufficient justification" and was not "greater than is fit" or "immoderate."[174] Although the reasonableness inquiry is an amorphous, "common sense" sort of analysis,[175] it would consider how

REV. 751, 786–87 (2009). The predominant originalist approach in the Fourth Amendment context focuses on original public meaning, and that is the approach discussed in this section.

169. *See infra* Parts II.B.1–2.

170. *See supra* note 168.

171. Originalist Scholars Amicus Brief, *supra* note 168, at 6–7; GRAY, *supra* note 168, at 251; Amar, *supra* note 163, at 768–69.

172. *See, e.g.*, Originalist Scholars Amicus Brief, *supra* note 168, at 13; Amar, *supra* note 163, at 768.

173. Amar, *supra* note 163, at 769.

174. Originalist Scholars Amicus Brief, *supra* note 168, at 14–15.

175. Amar, *supra* note 163, at 801.

intrusive a search is,[176] and whether the search is excessive in light of its justifications.[177]

This interpretation of the Fourth Amendment is notably consistent with the balancing approach proposed in Part I. Both approaches would resolve the question of when the government can engage in warrantless surveillance by making a normative inquiry to determine whether such surveillance is justified. There are differences, of course. This Article's approach is more specific and less reliant on distant historical analogy than the originalist approaches.[178] It would also conduct its balancing at the "scope" stage rather than the "reasonableness" stage of a Fourth Amendment case, preserving the longstanding role of warrants and probable cause in regulating police behavior.[179] The warrant requirement, unlike the *Katz* test, has not come under widespread attack by scholars or commentators.[180] Indeed, many have argued for strengthening the requirement by limiting its various exceptions, and empirical data indicates that warranted searches are far more likely than unwarranted probable-cause searches to actually produce evidence of crime.[181] The nor-

176. *Id.*

177. Originalist Scholars Amicus Brief, *supra* note 168, at 15. Note that this is not the only originalist interpretation of Fourth Amendment reasonableness. Laura Donohue has argued that "unreasonable" in the Fourth Amendment's text refers to something "against the reason of the common law," including warrantless entry into a home. *See* Laura Donohue, *The Original Fourth Amendment*, 83 U. CHI. L. REV. 1181, 1192 (2016). This approach to Fourth Amendment reasonableness would be less consistent with the normative balancing approach proposed above and would likely be more focused on government actions violating the common law.

178. *Cf.* Originalist Scholars Amicus Brief, *supra* note 168, at 3–4 (analyzing cell phone signal data collection by reference to the general warrant cases of the pre-Founding era).

179. Under the Fourth Amendment, once a government action is found to be a "search," it can still be justified as "reasonable" if, for instance, the government has obtained a warrant or qualified for an exception to the warrant requirement. The prevailing originalist approach to reasonableness would simply ask whether a search was generally reasonable, rather than requiring a warrant as a default. *Id.* at 15; Amar, *supra* note 163, at 801.

180. *Cf.* CHRISTOPHER SLOBOGIN, PRIVACY AT RISK: THE NEW GOVERNMENT SURVEILLANCE AND THE FOURTH AMENDMENT 44–45 (2007) (suggesting that courts preserve ex ante review but advocating for the issuance of warrants on less than probable cause).

181. *See, e.g.*, Phyllis T. Bookspan, *Reworking the Warrant Requirement: Resuscitating the Fourth Amendment*, 44 VAND. L. REV. 473, 481 (1991); Wayne D.

mative test would avoid overturning more than a century of warrant-requirement precedents and undermining effective ex ante judicial review of police surveillance.[182] But the inquiry would be conceptually similar to the originalist inquiry. Moreover, it would make little difference to a police officer whether looking at a house without probable cause is lawful because it is not regulated by the Fourth Amendment or because it is "reasonable."[183] The normative test proposed here is congruous with the predominant originalist interpretation of the Fourth Amendment.[184]

2. Fourth Amendment Searches as Textually Indeterminate

The majority of scholars who have written on the Fourth Amendment's scope consider its text and history to be indeterminate, or at best, profoundly underdeterminate.[185] Not only is

Holly, *The Fourth Amendment Hangs in the Balance: Resurrecting the Warrant Requirement Through Strict Scrutiny*, 13 N.Y. L. SCH. J. HUM. RTS. 531, 532 (1997); Max Minzner, *Putting Probability Back into Probable Cause*, 87 TEX. L. REV. 913, 923–25 (2009).

182. *See, e.g.*, Riley v. California, 134 S. Ct. 2473, 2482 (2014); Bond v. United States, 529 U.S. 334, 338–39 (2000); Oliver v. United States, 466 U.S. 170, 170 (1984); Katz v. United States, 389 U.S. 347, 347 (1967); United States v. Lefkowitz, 285 U.S. 452, 467 (1932); Perlman v. United States, 247 U.S. 7, 7 (1918); Boyd v. United States, 116 U.S. 616, 616 (1886).

183. *See* Amar, *supra* note 163, at 769.

184. Indeed, to the extent that originalism incorporates values of stare decisis, the normative test may be the optimal originalist approach because it avoids overturning longstanding precedents. *See supra* note 182.

185. *See supra* note 167. For a discussion of underdeterminacy and construction in legal interpretation, see Lawrence B. Solum, *Originalism and Constitutional Construction*, 82 FORDHAM L. REV. 453, 458 (2013). Some originalist scholars have argued that underdeterminate text can be clarified by reference to the spirit of the constitutional provision at issue, i.e. its original function or purpose. *See* Randy E. Barnett & Evan D. Bernick, *The Letter and the Spirit: A Unified Theory of Originalism*, 107 GEO. L.J. 1, 3 (2018). In this context, the generally acknowledged purposes of the Fourth Amendment are fairly abstract and may not substantially clarify the scope of the Fourth Amendment. *See* Tokson, *supra* note 166, at 635 & n.279 (noting that historians generally consider the "bedrock purpose of the Fourth Amendment" to be the protection of "privacy, property, and liberty from undue intrusions by government officers," and quoting several historians). Assuming historians are correct that a core purpose of the Amendment was to protect values like privacy and liberty against government oppression, the test proposed here is likely congruent with an original-purpose-based approach.

the term "search" ambiguous and capable of multiple meanings,[186] but the Supreme Court's time-honored interpretation of "reasonable" as typically requiring a warrant or at least some articulable suspicion means that not every investigative act can be a search.[187] The crucial question of when the police can conduct suspicion-less surveillance is not answered in the text or history.[188]

What should courts do when addressing an indeterminate law? General theories of legal indeterminacy typically conceive of judges who fill legal gaps as acting in a legislative capacity and attempting to reach optimal outcomes via a normative-style inquiry.[189] This inquiry might entail the consideration of moral values, policy judgments, or personal experiences.[190] Judges might accordingly weigh these types of considerations in addressing the Fourth Amendment's scope in the absence of formal guidance. These broad prescriptions do not mandate a balancing test, but they are certainly consistent with the use of normative balancing when addressing indeterminate law.

Further, theories of indeterminacy that focus on how courts should formulate legal tests in the absence of determinate law directly support the use of a balancing test in the Fourth Amendment context.[191] The issue of the Fourth Amendment's scope is normatively complex, covers a wide variety of government conduct, and has been repeatedly destabilized by technological and social change.[192] Non-balancing standards may therefore fail to

186. Kerr, *supra* note 167, at 70.

187. Tokson, *supra* note 166, at 640.

188. *Id.* at 628–29.

189. *See, e.g.*, JOSEPH RAZ, THE AUTHORITY OF LAW 197–99 (1979); Thomas W. Merrill, *The Common Law Powers of Federal Courts*, 52 U. CHI. L. REV. 1, 43 (1985). Ronald Dworkin takes a philosophically different approach to doctrinal indeterminacy that ultimately offers similar advice. *See* RONALD DWORKIN, TAKING RIGHTS SERIOUSLY 124, 128 (1977) (describing the central role of political and personal convictions in Dworkinian adjudication). Dworkin argues that judges should address difficult legal questions by choosing the outcome that fits best with the overarching narrative or theory of law and with political morality. RONALD DWORKIN, A MATTER OF PRINCIPLE 138–43 (1985); DWORKIN, *supra*, at 107.

190. *See* MELVIN ARON EISENBERG, THE NATURE OF THE COMMON LAW 148 (1988); RICHARD A. POSNER, HOW JUDGES THINK 82–83, 106–08 (2008); DAVID A. STRAUSS, THE LIVING CONSTITUTION 38 (2010).

191. *See supra* note 80.

192. Tokson, *supra* note 166, at 614–15, 643–44.

capture the fundamental values underlying the issue and may not be much simpler to apply than a direct balancing test.[193] Moreover, courts are increasingly likely to be able to obtain the information they need to effectively balance in the Fourth Amendment context.[194] In such a situation, a balancing test is likely to be the optimal approach for courts faced with legal indeterminacy.[195] General theories of legal indeterminacy are consistent with a normative balancing approach, and more detailed theories directly support such an approach.

III. THE CASE FOR A NORMATIVE BALANCING MODEL

The previous Parts have set out a normative balancing model for the Fourth Amendment's scope, traced the lineage of its various factors, and given an account of its doctrinal, historical, and theoretical foundations. This Part details the normative balancing model's more practical advantages: directness, adaptability to social and technological change, inclusion of non-privacy harms, harmonization of doctrine with practice, and applicability to broad surveillance programs. In a society where surveillance technology consistently advances and expectations of privacy continually shrink, these benefits may be indispensable.[196]

A. DIRECTNESS

A prominent advantage of the normative balancing approach is that it directly addresses the normative values at issue. Courts need not use "false targets" or proxies that stand in for essential Fourth Amendment interests;[197] they would examine those interests directly. If judges can administer a balancing test

193. Cloud, *supra* note 6, at 28–36; Tokson, *supra* note 166, at 644–45.

194. Tokson, *supra* note 166, at 645. *See generally* John R. Aiello & Kathryn J. Kolb, *Electronic Performance Monitoring and Social Context: Impact on Productivity and Stress*, 80 J. APPLIED PSYCHOL. 339, 339 (1995) (studying stress among the targets of surveillance); Christopher Slobogin, *Government Data Mining and the Fourth Amendment*, 75 U. CHI. L. REV. 317, 335 (2008) (setting out the average perceived intrusiveness of various types of searches); Daniel J. Solove & Danielle Keats Citron, *Risk and Anxiety: A Theory of Data Breach Harms*, 96 TEX. L. REV. 737, 773–77 (2018) (discussing how courts might quantify damages from privacy breaches).

195. Tokson, *supra* note 166, at 613–16.

196. *See id*. at 614.

197. *See id*. at 609–11.

effectively, then its outcomes should maximize societal welfare relative to other tests.

Of course, the other side of this coin is that balancing tests are generally difficult to administer, as discussed below.[198] But a balancing approach is likely to be more effective than a narrower standard in this context. Because the question of the Fourth Amendment's scope is conceptually complex, broad, and subject to constant disruption by new technologies, it is unlikely that a narrow standard can effectively capture the fundamental values at stake.[199] A balancing test, though hardly without drawbacks, avoids this fatal error.

Relatedly, the normative approach embodies the balance that is inherent in the Fourth Amendment.[200] It squarely addresses the purposes of the Fourth Amendment, directly assessing the harms of arbitrary government intrusions and the practical values of security, liberty, and privacy.[201] It hews far more closely to traditional Fourth Amendment goals than does, for instance, the *Katz* test, which focuses on current societal expectations about privacy.[202]

B. ADAPTABILITY TO SOCIAL AND TECHNOLOGICAL CHANGE

The normative approach is especially adaptable to new circumstances and new surveillance technologies. It looks to law enforcement benefits and practical privacy harms, no matter how those benefits and harms may manifest in a given surveillance context. Alternative tests are often more rigid and prone to destabilization by changing circumstances.[203]

Changes in surveillance practices and technologies have repeatedly undermined narrower Fourth Amendment tests in the past. In the early twentieth century, the Supreme Court held that the Fourth Amendment's protections were limited to the specific types of property enumerated in the "persons, houses, papers, and effects" clause of the Amendment.[204] This property-based approach exposed telephone and other conversations to

198. *See infra* Part IV.A.
199. *See supra* Part II.B.2.
200. *See supra* Part II.A.
201. *See supra* note 66.
202. Katz v. United States, 389 U.S. 347, 361 (1967) (Harlan, J., concurring).
203. *See* Tokson, *supra* note 13, at 181–87.
204. *See* Olmstead v. United States, 277 U.S. 438, 476 (1928).

pervasive government monitoring, leading to egregious privacy violations and political abuses.[205] The Court eventually adopted the *Katz* test, which expanded the Fourth Amendment's coverage to intangible things and based it on expectations of privacy.[206] Yet the *Katz* test has itself been rapidly destabilized as threats to privacy proliferate, knowledge of such threats gradually spreads, and the cost-per-citizen of surveillance drops precipitously.[207] In a society where the government can collect huge databases of personal information held by commercial third parties,[208] engage in constant visual monitoring via drones or satellites,[209] or mine email metadata to reveal intimate details about people's lives,[210] the concept of an expectation of privacy not grounded in legal protections is increasingly obsolete.

Adaptability is especially important given the outsized role that social and technological change plays in Fourth Amendment law. A normative balancing approach allows courts to take account of a novel surveillance context without depending on societal expectations or waiting for Congress to pass a law—a wait that might take decades.[211] The normative test is resilient to the changes that have undermined previous and current Fourth Amendment tests.

C. DISCRIMINATION-BASED HARMS

Many of the harms of surveillance are related to the loss of privacy that occurs when a subject is observed by others. But the

205. *See, e.g.*, U.S. SELECT COMM. TO STUDY GOVERNMENTAL OPERATIONS WITH RESPECT TO INTELLIGENCE ACTIVITIES, FINAL REPORT, S. REP. No. 94-755, at 183–84, 198–201 (1976) [hereinafter FINAL REPORT OF THE SELECT COMM.].

206. *Katz*, 389 U.S. at 361 (Harlan, J., concurring).

207. *See* Tokson, *supra* note 13, at 181–87.

208. *E.g.*, Chris J. Hoofnagle, *Big Brother's Little Helper: 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, 635–37 (2004).

209. Robert Draper, *They Are Watching You—And Everything Else on the Planet*, NAT'L GEOGRAPHIC, Feb. 2018, https://www.nationalgeographic.com/magazine/2018/02/surveillance-watching-you [https://perma.cc/769W-LDCP].

210. Barton Gellman & Ashkan Soltani, *NSA Collects Millions of E-mail Address Books Globally*, WASH. POST (Oct. 14, 2013), https://www.washingtonpost.com/world/national-security/nsa-collects-millions-of-e-mail-address-books-globally/2013/10/14/8e58b5be-34f9-11e3-80c6-7e6dd8d22d8f_story.html.

211. The Electronic Communications Privacy Act ("ECPA") has not yet been meaningfully updated since it became law in 1986, despite massive advances and changes in email technology. *See* 18 U.S.C. §§ 2516, 2703 (2012).

Katz test's exclusive focus on informational privacy fails to capture some of the most harmful aspects of government surveillance: discrimination, coercion, intimidation, and physical harm.[212] Routine police encounters on public sidewalks or roads, for instance, may have little impact on informational privacy but nonetheless may harm individuals through coercion or the threat of violence.[213] The normative test takes a broader view of Fourth Amendment privacy and protection, one that considers the personal harms of surveillance whether they arise from observation or from more direct tactics of intimidation or coercion.[214]

Non-privacy harms may be especially important when surveillance reflects discrimination against certain groups or otherwise expresses societal condemnation of surveillance targets. State surveillance can have a powerful expressive component, conveying the message that its targets are low-status members of society, unworthy of trust, or inherently dangerous.[215] Discrimination itself, including discrimination associated with police practices, can cause serious short-term psychological and physical effects, including stress, depression, elevated heart rate, and high blood pressure.[216] Over the long term, such discrimination is correlated with a variety of health problems, such as heart attacks and strokes.[217] Surveillance programs that target or disproportionately affect a particular demographic group may cause serious harms to individuals that should be taken into account in a Fourth Amendment analysis. The normative test allows courts to directly consider such harms when assessing a government surveillance practice.

212. *See* Stuntz, *supra* note 9, at 1065–66.

213. *Id.*

214. *See supra* notes 128–32 and accompanying text.

215. *See* Craig Konnoth, *An Expressive Theory of Privacy Intrusions*, 102 IOWA L. REV. 1533, 1563–67 (2017).

216. Pamela J. Sawyer et al., *Discrimination and the Stress Response: Psychological and Physiological Consequences of Anticipating Prejudice in Interethnic Interactions*, 102 AM. J. PUB. HEALTH 1020, 1022 tbl.1 (2012); Abigail A. Sewell & Kevin A. Jefferson, *Collateral Damage: The Health Effects of Invasive Police Encounters in New York City*, 93 J. URB. HEALTH 542, 543 (2016).

217. Sawyer et al., *supra* note 216, at 1020.

D. HARMONIZING PRACTICE AND DOCTRINE

The *Katz* test directs courts to assess society's expectations of privacy, and many courts faithfully attempt to do so. Lower courts especially tend to address novel Fourth Amendment scope questions by attempting to calculate societal knowledge and expectations about surveillance practices.[218] The Supreme Court frequently does the same, looking explicitly to our "everyday expectations of privacy"[219] and what people "typically know"[220] in determining the scope of the Fourth Amendment.[221] The results and reasoning of such cases are frequently criticized, but one might at least admire these courts' fidelity to governing precedent.[222]

Yet many Fourth Amendment cases, especially at the Supreme Court level, appear to be driven by normative concerns rather than doctrinal ones.[223] Consider the third-party doctrine, which states that people waive their Fourth Amendment rights in things that they voluntarily disclose to a third party.[224] This infamous doctrine threatens privacy in a vast swath of personal data in the internet age.[225] Yet, even before it was expressly limited in *Carpenter v. United States*,[226] the third-party doctrine

218. *See* Tokson, *supra* note 13, at 154, 156–58, 161–63 (describing numerous examples of lower courts attempting to assess the extent of societal knowledge in order to determine societal expectations of privacy).

219. Minnesota v. Olson, 495 U.S. 91, 98 (1990).

220. Smith v. Maryland, 442 U.S. 735, 743 (1979).

221. *See, e.g.*, Bond v. United States, 529 U.S. 334, 338–39 (2000) ("[A] bus passenger clearly expects that his bag may be handled. He does not expect that other passengers or bus employees will . . . feel the bag in an exploratory manner."); California v. Greenwood, 486 U.S. 35, 40 (1988) ("It is common knowledge that plastic garbage bags left on or at the side of the road are readily accessible to . . . scavengers, snoops, and other members of the public."); California v. Carney, 471 U.S. 386, 392 (1985) ("The public is fully aware that it is accorded less privacy in its automobiles . . . .").

222. *See, e.g.*, SLOBOGIN, *supra* note 180, at 151–64 (2007); Lewis R. Katz, *In Search of a Fourth Amendment for the Twenty-First Century*, 65 IND. L.J. 549, 564–66 (1990).

223. *See* Carpenter v. United States, 138 S. Ct. 2206, 2236 (2018) (Thomas, J., dissenting); Kerr, *supra* note 32, at 519.

224. *See Smith*, 442 U.S. at 744; United States v. Miller, 425 U.S. 435, 442–43 (1976).

225. Tokson, *supra* note 5, at 585.

226. *See, e.g.*, *Miller*, 425 U.S. at 442 (holding that bank records are not protected by the Fourth Amendment because they are exposed to bank employees in the ordinary course of business).

seemed to disappear whenever it would produce a particularly unjust outcome.[227] In a typical third-party doctrine case, exposure of something to a third party's employees eliminates Fourth Amendment protection in that thing.[228] Yet in *Ferguson v. City of Charleston*, the Court held that a state hospital's program of surreptitiously testing patients' urine for cocaine violated the Fourth Amendment, despite the fact that patients voluntarily turned over their urine to hospital employees.[229] And the Court held in *Stoner v. California* that the police must obtain a search warrant to enter a hotel room despite the fact that "maids, janitors, or repairmen" routinely enter and observe the room in the normal course of business.[230] Recently, in *Carpenter*, several dissenting Justices reasonably complained that the Court's decision to extend the Fourth Amendment to cell phone location data appeared driven by normative considerations rather than the literal *Katz* test.[231] Policy considerations, rather than societal expectations, seem to dictate the outcomes of several other Fourth Amendment cases as well.[232] Indeed, they appear to drive the outcomes of some cases that purport to turn on neutral concepts like trespass and property.[233]

227. Neil Richards notes a similar phenomenon in Richards, *supra* note 40, at 1468–73, contending that the Supreme Court was always more concerned with the unrevealing nature of the information at issue in the third-party doctrine cases than with the fact of disclosure to third parties.

228. *Miller*, 425 U.S. at 442.

229. 532 U.S. 67, 84–85 (2001). The Court granted certiorari only on the issue of whether the testing fit within the special needs exception and assumed a lack of patient consent. *Id.* at 76. But the dissenting Justices noted that the patients' consent was obvious and provided a clear basis to resolve the case. *Id.* at 92–96 (Scalia, J., dissenting).

230. 376 U.S. 483, 489 (1964).

231. Carpenter v. United States, 138 S. Ct. 2206, 2236 (2018) (Thomas, J., dissenting); *id.* at 2265 (Gorsuch, J., dissenting).

232. *See* Illinois v. Caballes, 543 U.S. 405, 410 (2005) (holding that dog sniffs for contraband are not searches regardless of people's expectations of privacy); United States v. Jacobsen, 466 U.S. 109, 124 (1984) (holding that testing substances for contraband is not a search); Hudson v. Palmer, 468 U.S. 517, 536 (1984) (expressly considering the benefits and costs of permitting warrantless searches of prison cells); Kerr, *supra* note 32, at 519–22.

233. *See* Florida v. Jardines, 569 U.S. 1, 7–10 (2013) (finding a Fourth Amendment search under the *Jones* trespass test despite the absence of a trespass, based largely on novel claims about the social norms that govern approaching a doorstep).

The normative test directs courts to give an account of the core normative considerations that appear to drive a substantial portion of the Supreme Court's cases. It would have the benefit of making the Court's actual rationales for its decisions visible and subject to scrutiny. When the Supreme Court reaches an essentially normative decision but obscures its reasoning behind one *Katz* doctrine or another, observers are less able to predict future cases, detect judicial bias, or understand existing law. The normative test would better align the outcomes of Fourth Amendment cases with their actual rationales, promoting transparency and judicial credibility.

E. AGGREGATION AND SPILLOVER

The normative test would help courts to address the Fourth Amendment issues raised by aggregated programs of surveillance. Wide-ranging surveillance programs can yield massive databases of citizens' information.[234] These vast collections of data can be analyzed to reveal far more than would be revealed by any single act of investigation.[235] Aggregated surveillance programs are increasingly problematic as the cost-per-citizen of surveillance and analysis decreases.[236]

Current Fourth Amendment approaches are largely blind to the dangers of aggregate surveillance. Courts have rightly been criticized for their transactional, non-systematic approach to Fourth Amendment questions.[237] Although courts occasionally look to the future impacts of their decisions, they generally assess each investigatory act in isolation rather than considering surveillance programs as a whole.[238] This is problematic because, in practice, Fourth Amendment decisions that permit the government to surveil one specific individual effectively grant the government the power to surveil citizens en masse.

234. Renan, *supra* note 74, at 1058–60.

235. *Id.* at 1056.

236. *See* Tokson, *supra* note 32.

237. Barry Friedman & Cynthia Benin Stein, *Redefining What's "Reasonable": The Protections for Policing*, 84 GEO. WASH. L. REV. 281, 298 (2016); Renan, *supra* note 74, at 1053.

238. Renan, *supra* note 74, at 1053. At times, Fourth Amendment analyses are overtly narrow, for example, looking to the specific terms of a particular defendant's privacy policy. United States v. Warshak, 631 F.3d 266, 287 (6th Cir. 2010).

In several situations, the government has done just that. The Supreme Court's holding that the government may collect Michael Lee Smith's dialed telephone numbers provided the legal basis for surveillance programs targeting millions of citizens. These include the NSA's collection of citizens' dialed phone numbers and the DEA's decades-long program of collecting telephone metadata on all calls from the United States to other countries.[239] Likewise, the Court's ruling that address information on a postal letter is unprotected by the Fourth Amendment eventually became the basis for a government program of scanning every mailed envelope into a massive database of postal communications.[240] These aggregate programs of surveillance have a capacity to infringe on citizens' privacy that is greater than the sum of their parts, and they raise questions that the Court does not even contemplate under traditional Fourth Amendment tests.[241]

The normative test is better suited for addressing widespread surveillance and the collection of large databases of citizens' personal information. It directs courts to assess surveillance at a programmatic level under the presumption that the government will pursue unregulated surveillance as broadly as resource constraints allow, as it has repeatedly done in the modern era.[242] Thus it has the benefit of aligning courts' assessments with the likely consequences of their decisions.

A related problem in Fourth Amendment law is that of spillover, meaning that information collected for one purpose may later be used for another, more invasive or problematic purpose.[243] For instance, section 702 of FISA authorizes intelligence agencies to monitor the phone calls and electronic communications of non-U.S. persons.[244] The intelligence program, however,

239. Smith v. Maryland, 442 U.S. 735, 745–46 (1979); *see* Renan, *supra* note 74, at 1055.

240. *Ex Parte* Jackson, 96 U.S. 727, 733 (1877); Ron Nixon, *Report Reveals Wider Tracking of Mail in U.S.*, N.Y. TIMES (Oct. 27, 2014), https://www.nytimes.com/2014/10/28/us/us-secretly-monitoring-mail-of-thousands.html.

241. *See* Renan, *supra* note 74, at 1056.

242. *See supra* notes 239–40; *see also* Renan, *supra* note 74, at 1059 (discussing uses of license plate scanning to monitor people's movements).

243. *See* Renan, *supra* note 74, at 1060–67.

244. *See, e.g.*, Erin Kelly, *What Is the Section 702 Surveillance Program and Why Should You Care?*, USA TODAY (Jan. 11, 2018), https://www.usatoday.com/story/news/politics/2018/01/11/what-section-702-surveillance-program-and-why-should-you-care/1025582001 [https://perma.cc/5U3H-ZCN2].

also collects the data and communications of U.S. citizens communicating with non-U.S. citizens.[245] This information is then accessible by the FBI for domestic law enforcement purposes, and the FBI uses it "[w]ith some frequency" for purely domestic law enforcement.[246] Similar problems arise with data collected by private parties that is then purchased or obtained by the government for more invasive or de-anonymized uses.[247]

Although secondary uses of information are difficult to regulate under any standard, the normative test is more compatible with judicial scrutiny of, say, transfers of data between different government agencies or between private data brokers and government officials.[248] While *Katz*'s expectations-of-privacy analysis is largely incompatible with the concept of regulating law enforcement collection of already-gathered information,[249] the normative approach could allow courts to determine that a transfer of information to law enforcement entities is regulated by the Fourth Amendment based on its substantial potential for additional surveillance harms.[250]

IV. OBJECTIONS AND ALTERNATIVES

Any test for the Fourth Amendment's scope will have drawbacks as well as advantages. Normative balancing's advantages are arguably essential to an effective Fourth Amendment test. Yet objections might be raised that counsel against adopting normative balancing nonetheless. This Part responds to some potential objections to a Fourth Amendment balancing test. In the course of doing so, it touches on the deficiencies of the current test, which carries many of the same drawbacks as the normative test with virtually none of the benefits. This Part also discusses two potential alternatives to the *Katz* test: the positive

245. *Id.*

246. PRIVACY & CIVIL LIBERTIES OVERSIGHT BD., REPORT ON THE SURVEILLANCE PROGRAM OPERATED PURSUANT TO SECTION 702 OF THE FOREIGN INTELLIGENCE SURVEILLANCE ACT 59 (2014), https://www.pclob.gov/library/702-Report.pdf [https://perma.cc/S687-SBWH].

247. *See, e.g.*, Renan, *supra* note 74, at 1062–63.

248. *See generally* Ric Simmons, *The Mirage of Use Restrictions*, 96 N.C. L. REV. 133 (2017) (discussing the difficulty of creating effective use restrictions on government agencies).

249. *See, e.g.*, United States v. Jacobsen, 466 U.S. 109, 117–18 (1984).

250. *See generally supra* Part I.B.2 (discussing harms to individuals).

law approach and an *Olmstead*-like, textualist approach. In doing so, it develops another argument for the normative test—even accounting for its disadvantages, the normative test is superior to the alternatives.

A. ADMINISTRABILITY AND INSTITUTIONAL CAPACITY

One potential objection to the normative balancing test concerns its administrability. Multifactor balancing standards tend to be more complex and have higher decision costs than other potential tests.[251] Relatedly, courts may lack the institutional capacity to effectively apply a balancing test. The normative approach asks judges to consider the likely effects of legal regulation on police and citizen behavior, a policy inquiry that may be better suited to a legislature.[252] Although balancing is a fundamental practice of courts, and the central metaphor of judging involves balance scales, judges may be more effective applying narrower standards or bright-line rules.[253]

The normative test is designed to mitigate some of the administrability issues and decision costs inherent in balancing tests. It focuses on actual practices and communications as well as measurable internal harms rather than abstract concepts of privacy or security. It is also designed to allow judges to consult intuitions about the potential effects of surveillance on their own behaviors.[254] Thus it is likely to be more administrable than many balancing tests commonly used in other areas of law.[255] Further, balancing tests in general are well suited to "rulifica-

251. *See* Louis Kaplow, *Rules Versus Standards: An Economic Analysis*, 42 DUKE L.J. 557, 572–86 (1992). Concerns about decision costs may be mitigated somewhat by the fact that stare decisis will resolve the vast majority of Fourth Amendment decisions under any standard. *See* Allen & Rosenberg, *supra* note 34, at 1153–58.

252. *See, e.g.*, Orin Kerr, *The Fourth Amendment and New Technologies: Constitutional Myths and the Case for Caution*, 102 MICH. L. REV. 801, 857–87 (2004).

253. *See* T. Alexander Aleinikoff, *Constitutional Law in the Age of Balancing*, 96 YALE L.J. 943, 944 (1987).

254. *See, e.g.*, *supra* note 95 and accompanying text.

255. *See, e.g.*, Pike v. Bruce Church, Inc., 397 U.S. 137, 142 (1970) (weighing the interests of states against the burdens placed on interstate commerce); Pickering v. Bd. of Educ., 391 U.S. 563, 568 (1968) (weighing a government employee's interest in free speech against the interests of the government in efficiently providing public services).

tion," or the gradual development of sub-rules that govern particular situations.[256] Rulification is likely to reduce decision costs and increase administrability over time.[257]

More broadly, courts appear able to effectively apply balancing tests that consider the effects of legal regulation in a wide variety of contexts. First Amendment law is famously a domain of balancing tests, which allow courts to robustly protect free speech without unduly hampering legitimate government activities.[258] Similar balancing tests are also employed in the law of equal protection,[259] procedural due process,[260] the Fifth Amendment,[261] the dormant Commerce Clause,[262] torts,[263] and confidentiality.[264] Although a definitive analysis of balancing in these areas would require thousands of pages, the ubiquity of balancing tests suggests that courts are hardly incapable of applying them.

Finally, although administrability is a concern with any balancing test, such a test could hardly be less administrable than *Katz*.[265] Although *Katz*'s reasonable expectation of privacy test is confusing enough on its face, the test in practice is even more complex and puzzling. Frustrated by the failures of the *Katz* test to embody important Fourth Amendment principles, courts have expanded and modified the test haphazardly.[266] As Orin Kerr famously described, courts have created multiple, conflicting versions of the test, sometimes applying it literally, sometimes looking to positive law for guidance, sometimes emphasizing the

256. *See* Frederick Schauer, *The Tyranny of Choice and the Rulification of Standards*, 14 J. CONTEMP. LEGAL ISSUES 803, 805–06 (2005).

257. *See* Tokson, *supra* note 166, at 652.

258. *See* Joseph Blocher, *Categoricalism and Balancing in First and Second Amendment Analysis*, 84 N.Y.U. L. REV. 375, 386 (2009).

259. Loving v. Virginia, 388 U.S. 1, 11 (1967).

260. Mathews v. Eldridge, 424 U.S. 319, 326 (1976).

261. New York v. Quarles, 467 U.S. 649, 656–57 (1984).

262. Pike v. Bruce Church, 397 U.S. 137, 142 (1970).

263. United States v. Carroll Towing Co., 159 F.2d 169, 173 (2d Cir. 1947).

264. *See* Ellen E. Deason, *Predictable Mediation Confidentiality in the U.S. Federal System*, 17 OHIO ST. J. DISP. RESOL. 239 (2002).

265. *See, e.g.*, Baude & Stern, *supra* note 7, at 1825, 1860 (noting *Katz*'s notorious lack of administrability); *see also* Minnesota v. Carter, 525 U.S. 83, 97 (1998) (Scalia, J., concurring); Etzioni, *supra* note 6, at 420–21; Solove, *supra* note 8, at 1511.

266. *See* Tokson, *supra* note 166, at 647–48.

thing being investigated, and sometimes focusing mostly on policy considerations.[267] Lower courts applying *Katz* in cases of first impression must choose between these various conflicting models, yet there is no law or norm that tells them how to make this crucial decision.[268] Unsurprisingly, in novel cases, Fourth Amendment law under the *Katz* test is unpredictable and chaotic.[269] By contrast, the normative test directs a court to overtly weigh the normative considerations at issue and to explain its actual reasons for reaching its conclusions. Not only is this a more rigorous approach, it is a more honest one, and it can help facilitate the development of efficient sub-rules over time.[270]

B. UNPREDICTABILITY

A potential objection to normative approaches in general is that they may be unpredictable and inconsistent across cases. Different judges may reach conflicting normative conclusions or may frame policy questions differently, leading to splits among lower courts.[271] Police officers using new surveillance techniques or facing novel situations may have difficulty determining whether they can lawfully surveil without a warrant.[272] Ideally, a Fourth Amendment test would be predictable and simple enough for courts and police officers alike.[273]

There are several reasons to think that unpredictability is not as significant a problem as it may seem, however. First, while police officers can simply follow established law in most cases, they are unlikely to be able to resolve difficult Fourth Amendment questions of first impression under any viable test,

267. Kerr, *supra* note 223, at 507–08.

268. Although Orin Kerr has argued that certain patterns might help guide lower court behavior, courts appear unaware of these patterns and any such guidelines as to model selection appear to be faint and inconsistent. *See* Lior Strahilevitz & Matthew Tokson, *Should Fourth Amendment Law Pay Attention to What People Expect? If So, How?*, CONCURRING OPINIONS (Nov. 27, 2017), https://concurringopinions.com/archives/2017/11/should-fourth-amendment-pay-attention-to-what-people-expect-if-so-how.html [https://perma.cc/EYM7-EZTN].

269. *See Carter*, 525 U.S. at 97 (Scalia, J., concurring); Solove, *supra* note 8, at 1519–20; Strahilevitz & Tokson, *supra* note 268.

270. Tokson, *supra* note 166, at 619.

271. Kerr, *supra* note 223, at 536–37.

272. Amsterdam, *supra* note 6, at 403–04; Ohm, *supra* note 14, at 1333–34.

273. Wayne R. LaFave, *'Case-by-Case Adjudication' Versus 'Standardized Procedures': The* Robinson *Dilemma*, 1974 SUP. CT. REV. 127, 141–42 (1974).

normative or otherwise. The Fourth Amendment's remedial doctrines already take ample consideration of this difficulty. Qualified immunity limits officers' liability to those cases where officers violate clearly established law,[274] and the good faith doctrine prevents the exclusion of evidence where officers rely on law that is later overturned.[275] Even if these doctrines were to disappear, the indemnification of police officers would prevent officers from facing personal consequences for non-egregious legal violations.[276] Moreover, tests that are simple enough to permit police officers to reliably answer novel Fourth Amendment questions may be profoundly deficient in other respects, such as drastically under-protecting privacy or protecting it in an extremely arbitrary manner.[277]

Second, under any Fourth Amendment test, a large majority of cases will be governed by precedent and stare decisis. The Supreme Court has already resolved how the Fourth Amendment applies in a wide variety of familiar surveillance contexts, including houses, cars, investigatory stops, inventory searches, searches incident to arrest, border stops, and many forms of electronic surveillance.[278] These precedents should continue to guide courts and police officers under a normative test, even as courts discard the *Katz* test which provided the nominal basis for many of their outcomes. The values of stare decisis counsel preserving the results of these cases, upon which law enforcement officials have long relied.[279] In addition, normative considerations often drove the results of these cases far more than *Katz*'s ambiguous "expectation of privacy" inquiry.[280] A few existing cases should be overturned under the new test, but stare decisis suggests overturning only cases that are especially flawed.[281]

274. Harlow v. Fitzgerald, 457 U.S. 800, 818 (1982).

275. Illinois v. Krull, 480 U.S. 340, 353–54 (1987).

276. Joanna C. Schwartz, *Police Indemnification*, 89 N.Y.U. L. REV. 885, 936 (2014).

277. *See, e.g.*, Olmstead v. United States, 277 U.S. 438, 464 (1928) (holding that the Fourth Amendment is limited to physical trespasses against tangible things).

278. *See* Allen & Rosenberg, *supra* note 34, at 1153–58.

279. *See, e.g.*, Dickerson v. United States, 530 U.S. 428, 443 (2000).

280. *See* Kyllo v. United States, 533 U.S. 27, 34, 40 (2001); Delaware v. Prouse, 440 U.S. 648, 662–63 (1979).

281. Arizona v. Rumsey, 467 U.S. 203, 212 (1984); *See infra* Part V.C.

Finally, the normative test would perform no worse than the current test in terms of predictability and consistency. For the reasons discussed above,[282] it is very difficult to predict how any case of first impression will be resolved under *Katz*.[283] Lower courts facing novel Fourth Amendment questions frequently produce splits[284] or rule unanimously only to see their rulings rejected by the Supreme Court.[285] A normative test grounded in the analysis of actual surveillance harm and law enforcement benefit, aided by studies of the measurable effects of surveillance, would, if anything, be more consistent than the multi-model *Katz* regime.

C. REDUNDANCY

Another potential argument against a balancing test for the Fourth Amendment's scope is that it would be redundant in some cases because the Court sometimes uses a balancing approach in determining whether a Fourth Amendment search or seizure is "reasonable."[286] A test that balances to determine whether something is a Fourth Amendment search and then sometimes balances to determine whether that search is reasonable would be partially redundant and could impose high decision costs on courts.

Yet courts applying a balancing test for the Fourth Amendment's scope would not have to balance again at the reasonableness stage, even in the subset of cases that use a reasonableness balancing test. First, although courts in Fourth Amendment cases often weigh the policy implications of their rulings, overt balancing tests are relatively rare in Fourth Amendment law, especially in cases regulating law enforcement.[287] Courts tend to

282. *See supra* notes 267–69 and accompanying text.

283. *See supra* notes 267–69 and accompanying text.

284. Wayne A. Logan, *Constitutional Cacophony: Federal Circuit Splits and the Fourth Amendment*, 65 VAND. L. REV. 1137, 1195–1203 (2012) (listing nearly forty unresolved circuit splits on Fourth Amendment issues).

285. *See* Carpenter v. United States, 138 S. Ct. 2206, 2223 (2018) (rejecting the unanimous holding of several federal courts of appeal that cell phone location information is not protected by the Fourth Amendment).

286. Matthew B. Kugler & Lior Jacob Strahilevitz, *Actual Expectations of Privacy, Fourth Amendment Doctrine, and the Mosaic Theory*, 2015 SUP. CT. REV. 205, 237 (2015).

287. *See, e.g.*, City of Indianapolis v. Edmond, 531 U.S. 32, 37 (2000) (noting that "search or seizure is ordinarily unreasonable in the absence of individualized suspicion of wrongdoing" and that the Court has "recognized only limited

balance in "special needs" cases that are likely to involve "minimal" privacy interests and government interests other than the traditional investigation of crime.[288] To date, special needs cases virtually always involve seizures or very clear searches such as building inspections.[289] The only issue is their reasonableness; the Fourth Amendment's application to the situation is obvious.

It might be objected that reasonableness balancing is not limited to special needs cases, even if those cases are the only ones that regularly employ balancing tests.[290] Courts occasionally weigh competing considerations when addressing novel questions of reasonableness.[291] But such cases almost always involve obvious seizures, such as car stops and *Terry* stops, and thus do not address the test for Fourth Amendment searches in any event.[292] In addition, these cases are rare; the default rule for searches still requires a valid warrant,[293] and the vast majority of cases that depart from that rule simply apply a suspicion-

circumstances in which the usual rule does not apply"); Chandler v. Miller, 520 U.S. 305, 313 (1997) ("To be reasonable under the Fourth Amendment, a search ordinarily must be based on individualized suspicion of wrongdoing."). *See generally* Riley v. California, 134 S. Ct. 2473, 2482 (2014) (holding that a police search of the contents of a cell phone incident to arrest was unreasonable under the Fourth Amendment and therefore required a warrant); California v. Acevedo, 500 U.S. 565, 574 (1991) (holding that the police can search a container in an automobile without a warrant only if they have probable cause).

288. Skinner v. Ry. Labor Execs.' Ass'n, 489 U.S. 602, 624 (1989) ("In limited circumstances, where the privacy interests implicated by the search are minimal, and where an important governmental interest furthered by the intrusion would be placed in jeopardy by a requirement of individualized suspicion, a search may be reasonable despite the absence of such suspicion."); s*ee also, e.g.*, Nat'l Treasury Emps. Union v. Von Raab, 489 U.S. 656, 665 (1989) (stating that balancing is appropriate "where a Fourth Amendment intrusion serves special governmental needs, beyond the normal need for law enforcement").

289. *See, e.g.*, Mich. Dep't of State Police v. Sitz, 496 U.S. 444, 455 (1990); Camara v. Mun. Ct., 387 U.S. 523, 530–31 (1967).

290. Excessive force claims are generally evaluated under a totality of the circumstances test that may incorporate balancing. *See* Graham v. Connor, 490 U.S. 386, 396 (1989). These cases inherently involve seizures, thus a normative balancing test for searches is unnecessary.

291. *See* Thomas K. Clancy, *The Fourth Amendment's Concept of Reasonableness*, 2004 UTAH L. REV. 977, 1012 (collecting cases); Sam Kamin & Justin Marceau, *Double Reasonableness and the Fourth Amendment*, 68 U. MIAMI L. REV. 589, 602–03 (2014) (discussing the "increasingly freewheeling form of reasonableness balancing" in the context of investigative stops).

292. For additional examples, see Michigan v. Summers, 452 U.S. 692, 704–05 (1981).

293. *See, e.g.*, Riley v. California, 134 S. Ct. 2473, 2482 (2014).

based standard, such as probable cause or reasonable suspicion.[294]

What if a case were to someday arise that presented both a difficult "search" question and a special needs issue or novel reasonableness question that might require the court to weigh policy interests while fashioning a new rule? Even then, the normative balancing test proposed above would displace or at least strongly inform any balancing performed at the reasonableness stage. If a surveillance technique caused concrete harms that outweighed its law enforcement benefits such that it required Fourth Amendment regulation, then both that fact and the extent of the harms and benefits would inform the Court's reasonableness inquiry. Most likely, no additional balancing would be required. Even in the rarest hypothetical case, it is unlikely that redundant balancing would be an issue.

D. BALANCING AND BIAS

Finally, a potential objection to a balancing test for the Fourth Amendment's scope is that such a test will be biased in favor of the government. Several scholars have noted that courts applying overt balancing tests to determine the reasonableness of a seizure or search often favor the government.[295] One might extrapolate that balancing inherently favors the government in the Fourth Amendment context.[296]

Although the government often prevails in cases where the court departs from the default warrant requirement and engages in balancing, it is unlikely that the balancing is to blame. Courts typically engage in reasonableness balancing after identifying a case as unique—as a "special needs" case rather than a normal

294. *See, e.g.*, City of Indianapolis v. Edmond, 531 U.S. 32, 37 (2000) (noting that "search or seizure is ordinarily unreasonable in the absence of individualized suspicion of wrongdoing" and that the Court has "recognized only limited circumstances in which the usual rule does not apply").

295. Shima Baradaran, *Rebalancing the Fourth Amendment*, 102 GEO. L.J. 1, 1 (2013); Eve Brensike Primus, *Disentangling Administrative Searches*, 111 COLUM. L. REV. 254, 296–97 (2011).

296. Richard Re, *Fourth Amendment Fairness*, 116 MICH. L. REV. 1409, 1419 (2018); Sundby, *supra* note 6, at 1765.

one.[297] Special needs cases are generally outside the realm of traditional law enforcement, involving non-criminal administrative enforcement,[298] children in school,[299] non-criminal drug testing,[300] and similar scenarios.[301] The paradigm special needs case involves "privacy interests that are minimal" and "important governmental interests."[302] By classifying a case as special needs, the court has largely already determined that its intrusions are minimal and the government's needs unique, even before reasonableness is assessed.[303] It is little wonder that the balancing in such cases is usually resolved in the government's favor.

There is, in other words, a strong selection effect at work here. Courts overtly balance only in those cases where they feel that a default warrant requirement is inappropriate.[304] And yet, even in this unique subset of cases, courts do not universally favor the government. For instance, the Supreme Court has ruled against the government in cases where the justifications for a drug testing program failed to outweigh its privacy intrusions,[305] where a blood test incident to arrest was too invasive,[306] and where the sanctity of the home outweighed the government's interest in drunk driving enforcement.[307]

In addition, overt balancing at the reasonableness stage may favor the government in some cases because of the Court's lax and poorly defined reasonableness-balancing approach. It sometimes focuses on government interests writ large and compares them to the one-off harms imposed on the single defendant

297. Fabio Arcila Jr., *Special Needs and Special Deference: Suspicionless Searches in the Modern Regulatory State*, 56 ADMIN. L. REV. 1223, 1227–31 (2004).

298. Camara v. Mun. Ct., 387 U.S. 523, 530–31 (1967).

299. New Jersey v. T.L.O., 469 U.S. 325, 338–39 (1985).

300. Nat'l Treasury Emps. Union v. Von Raab, 489 U.S. 656, 665–66 (1989).

301. *See, e.g.*, Vernonia School Dist. 47J v. Acton, 515 U.S. 646, 656–57 (1995).

302. Skinner v. Ry. Labor Execs.' Ass'n, 489 U.S. 602, 624 (1989).

303. *See id.*

304. *See* Terry v. Ohio, 392 U.S. 1, 20 (1968).

305. Chandler v. Miller, 520 U.S. 305, 318 (1997) (striking down a statute mandating drug testing of candidates for certain state officers).

306. Birchfield v. North Dakota, 136 S. Ct. 2160, 2184–85 (2016); *see also* Winston v. Lee, 470 U.S. 753, 766 (1985) (ruling in favor of the defendant in a reasonableness balancing case despite the presence of a warrant).

307. Welsh v. Wisconsin, 466 U.S. 740, 750–53 (1984).

challenging the seizure or search.[308] This can create a sort of "imbalancing" test that favors the government by aggregating government interests while failing to do the same for citizens.[309] But the far more concrete test developed above specifically directs courts to assess harms to citizens in the aggregate.[310] The surveillance technique at issue is hypothesized to be widespread and its targets numerous, as frequently happens when surveillance goes unregulated by the Fourth Amendment.[311] A more symmetrical balance should produce more symmetrical results.

E. POSITIVE LAW ALTERNATIVES

One model that courts have used when applying *Katz* looks to positive law to determine when people have a reasonable expectation of privacy. In recent years, some scholars have suggested that courts should apply this model exclusively, basing the scope of the Fourth Amendment on what other sources of law permit or prohibit.[312] The leading positive law proposal envisions a test in which the Fourth Amendment applies whenever a government officer's investigative action would be a violation of law, a tort, or a use of the government's unique legal authority.[313] Although the positive law test offers some advantages, it has several flaws that render it undesirable as a determinant of the Fourth Amendment's scope.

A positive law approach would be more predictable than most other approaches, at least in the subset of cases where positive law is clear. For instance, if a town had an ordinance prohibiting anyone but the licensed trash collecting company from collecting people's trash, then the police would not be able to examine trash in that town without a warrant.[314] There will be numerous other cases, however, when government surveillance presents an issue that is unresolved in existing statutes or precedents. Many government surveillance practices, like the use of

308. *See* Baradaran, *supra* note 295, at 15–21.

309. *Id.*

310. *See supra* text accompanying notes 87–89.

311. *See supra* text accompanying notes 239–40.

312. *See* Baude & Stern, *supra* note 7, at 1831–32; Michael J. Zydney Mannheimer, *Decentralizing Fourth Amendment Search Doctrine*, 107 KY. L.J. 169 (2018).

313. *See* Baude & Stern, *supra* note 7, at 1831–32.

314. *Id.* at 1882.

drug-sniffing dogs, arise rarely, if ever, in litigation between private parties.[315] Even those that do arise in litigation commonly rest on open-ended standards like "reasonableness," which are often less developed in the context of privacy torts than they are in Fourth Amendment law.[316] In a variety of cases, a positive law test may simply move from a hard Fourth Amendment question to an even harder tort question.[317]

Perhaps the most serious flaw in the positive law approach is the arbitrariness of its protections. The Fourth Amendment would often rest on considerations that have nothing to do with citizens' privacy, security, or freedom from government intrusion.[318] Consider the trash collection example. A person's trash, which can reveal intimate details about activities inside their home, would be protected in a town where laws establish a local trash-collection monopoly and entirely unprotected in a town without a monopoly.[319] The protection of citizens' privacy at home should not turn on such irrelevant details. Likewise, it makes little difference whether the government monitors a citizen by attaching a GPS device to her car or by tracking the car with a lawfully operated drone. Yet the former would presumptively require a warrant, while the latter would be wholly unregulated by the Fourth Amendment.[320] It is the constant monitoring of individuals, not the de minimis touching of a car, that

315. Richard M. Re, *The Positive Law Floor*, 129 HARV. L. REV. F. 313, 320 (2016).

316. *See id.*

317. *Id.*

318. Protecting citizens' privacy against arbitrary government intrusion is a fundamental purpose of the Fourth Amendment. *See* Boyd v. United States, 116 U.S. 616, 630 (1886) ("It is not the breaking of [a man's] 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 . . . ."); WILLIAM J. CUDDIHY, THE FOURTH AMENDMENT: ORIGINS AND ORIGINAL MEANING 602–1791, at 766 (2009) ("Privacy was the bedrock concern of the amendment, not general warrants."); Cloud, *supra* note 66, at 1726 (noting that "the historical record suggests that objections to general warrants and general searches alike rested upon broad concerns about protecting privacy, property, and liberty from unwarranted and unlimited intrusions"); Davies, *supra* note 67, at 744–45 (arguing that "it is certainly the case that the Framers intended to preserve a personal and domestic sphere that would be meaningfully protected against undue intrusions by government officers").

319. *See* Baude & Stern, *supra* note 7, at 1882.

320. State laws may vary, but the Restatement (Second) of Torts § 217 suggests that touching a chattel without permission would be unlawful, even if the

invades people's privacy and raises concerns about government oppression. But under a positive law test, only the touching matters.

A positive law regime would have the benefits of increased legislative control over criminal procedure, such as institutional competence and comprehensiveness.[321] But an enhanced legislative role would also have significant drawbacks in the Fourth Amendment context. A regime that significantly relies on legislative action to address new surveillance questions would likely be systematically under-protective of privacy.[322] The high and growing enactment costs of legislation and the preferences of entrenched interest groups result in a powerful bias in favor of legislative inaction.[323] Law enforcement agencies are likely to use invasive surveillance technologies long before legislatures regulate them via statute.[324]

A core function of the Fourth Amendment is to limit the ability of the political branches of government to compromise citizens' privacy.[325] The positive law approach would eliminate such limits so long as legislatures allow private parties as well as officials to engage in surveillance.[326] Under the positive law model, a determined government could permit its officials to engage in

owner could not maintain an action for damages. RESTATEMENT (SECOND) OF TORTS § 217 (AM. LAW INST. 1965); *see* Laurent Sacharoff, *Constitutional Trespass*, 81 TENN. L. REV. 877, 906–07 (2014).

321. *See* John Rappaport, *Second-Order Regulation of Law Enforcement*, 103 CAL. L. REV. 205, 232–34 (2015); *see also* Orin S. Kerr, *The Fourth Amendment and New Technologies: Constitutional Myths and the Case for Caution*, 102 MICH. L. REV. 801, 870, 875 (2004).

322. This is especially the case for surveillance techniques that do not fit neatly into existing privacy tort categories, such as location tracking or the collection of communications metadata.

323. *See* FRANK R. BAUMGARTNER ET AL., LOBBYING AND POLICY CHANGE: WHO WINS, WHO LOSES, AND WHY 24–26, 45 (2009); Tokson, *supra* note 13, at 193.

324. *See* Daniel J. Solove, *Fourth Amendment Codification and Professor Kerr's Misguided Call for Judicial Deference*, 74 FORDHAM L. REV. 747, 768–71 (2005). Likewise, statutes regulating evolving technologies tend to become obsolete quickly, and Congress has historically failed to amend such laws to accommodate technological change. *See id.*

325. *See supra* note 151.

326. *See* Re, *supra* note 315, at 330–31. Re notes that citizens will often be unable or unwilling to engage in such surveillance, and thus often do not present a substantial barrier to privacy-eliminating laws. *Id.*

any type of surveillance without judicial check. Relatedly, a positive law approach could result in law enforcement and national security interest groups lobbying for diminished protections against private surveillance.[327] This would both increase the scope of permissible government monitoring and reduce existing protections against intrusions by private parties.

Several other substantial objections to the positive law test have been raised. Private intrusions and government investigations are very different, and the law has regulated them differently.[328] Treating them as the same threatens to ignore the greater harms of government investigation in many cases and the greater justifications for government investigation in others.[329] Depending on how it is applied, the positive law test might also produce absurd results. For instance, a positive law approach may find a Fourth Amendment violation when a CDC researcher violates an FDA safety regulation while conducting a blood test.[330] Significant problems also arise in cases involving data held by third parties.[331] Ultimately, the fundamental arbitrariness and under-protectiveness of the positive law approach make it an unappealing alternative to the normative model.

F. *OLMSTEAD* ALTERNATIVES

Justice Thomas's dissent in *Carpenter* suggested an alternative approach to determining the Fourth Amendment's scope, grounded in text and historical practice.[332] Thomas essentially proposed returning to the rule of *Olmstead v. United States*, which held that the Fourth Amendment only applied to the tan-

327. *See id.* at 329.

328. *See id.* at 321–24.

329. *See id.*

330. *See id.* at 318.

331. Under the leading positive law approach, for example, it is difficult to separate out uses of the government's unique authority (which are searches) from informal government coercion (which is not). *See id.* at 323. The government's ability to obtain information held by third parties, perhaps the central issue of modern Fourth Amendment law, would be largely determined by the efficacy of informal pressure to persuade telecommunications service providers to share data. *See* Tokson, *supra* note 13, at 191 n.307.

332. *See* Carpenter v. United States, 138 S. Ct. 2206, 2238 (2018) (Thomas, J., dissenting).

gible things mentioned in the Amendment: "persons, houses, papers, and effects."[333] Under this approach, as *Olmstead* ruled, there would be no constitutional impediment to the government wiretapping its citizens' phone calls.[334] Moreover, a citizen could only assert a Fourth Amendment right in herself or her property and would have no protectible interest in papers or property owned by others.[335] Justice Thomas's approach has recently attracted some scholarly support.[336]

Perhaps the best argument against this approach was written in 1928, by Justice Brandeis in his influential *Olmstead* dissent.[337] Brandeis noted that, in a world of constantly advancing surveillance technology, a Fourth Amendment that only addressed the property-based surveillance common in the late 1700s would be "impotent and lifeless," incapable of any meaningful protection of citizens' rights.[338] His warnings proved prescient in the decades following *Olmstead*, when the federal government engaged in a widespread and flagrantly abusive program of bugging and wiretapping citizens, including civil rights leaders, political activists, attorneys and their clients, journalists, and members of Congress, among others.[339] These practices were declared unconstitutional only in 1967, when the Supreme Court reversed *Olmstead* in *Katz v. United States*.[340]

333. *Id.*; *see also* Olmstead v. United States, 277 U.S. 438 (1928).

334. *See Olmstead*, 277 U.S. at 466.

335. *See Carpenter*, 138 S. Ct. at 2241–42 (Thomas, J., dissenting). This limitation on the Fourth Amendment's scope is often framed as textualist, but the text of the Fourth Amendment uses plural terms, referring to a right against unreasonable searches vested in "the people" and "their" persons, houses, papers, and effects. U.S. CONST. amend. IV. While historical practice is consistent with a Fourth Amendment limited to trespasses on an individual claimant's property, the text itself is consistent with a broader, collective right. *See generally* David Gray, *Collective Standing Under the Fourth Amendment*, 55 AM. CRIM. L. REV. 77 (2018) (arguing that the Fourth Amendment was intended to provide broader privacy protection than was recognized by late twentieth century Supreme Court rulings).

336. *See* Jeffrey Bellin, *Fourth Amendment Textualism*, 118 MICH. L. REV. (forthcoming Nov. 2019) https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3309688 (arguing also on textual grounds that a "search" should be defined as a reasonably detailed examination of something).

337. *Olmstead*, 277 U.S. at 471 (Brandeis, J., dissenting).

338. *Id.* at 473.

339. *See* Tokson, *supra* note 5, at 583–84.

340. 389 U.S. 347, 353 (1967); *see also* Tokson, *supra* note 5, at 584 n.13 (discussing the closure of the government's wiretapping and bugging programs

Indeed, the most substantial flaw of an *Olmstead*-like approach to the Fourth Amendment's scope would be its lack of protection against modern forms of surveillance. Under such an approach, the government could constitutionally wiretap citizens' phone calls, record their conversations taking place outside the home, constantly track their locations via cell phone signal, monitor their web surfing habits, monitor their television watching habits, record their search terms, analyze their urine, blood, or DNA samples given to doctors or other parties, and obtain recordings inside their homes from internet-connected devices like the Amazon Echo—all without a warrant or any quantum of suspicion.[341] The Fourth Amendment would also not apply to government searches of non-residential real property, which is neither a "house" nor an "effect."[342] While most traditional methods of surveillance and their analogues (such as email inspections)

in the late 1960s and their clear illegality thereafter). Congress passed a law in 1934 purporting to regulate wiretapping, but the legislation was narrow and ineffective. *See* Tokson, *supra*, at 591–92. A year after *Katz* was decided and several decades after the advent of widespread government wiretapping, Congress passed the Wiretap Act, which (in addition to *Katz*) has effectively regulated government and private wiretapping. *See* Omnibus Crime Control and Safe Streets Act of 1968, Pub. L. No. 90-351, tit. III, 82 Stat. 212.

341. *See* Bellin, *supra* note 336, at 58 (noting that the government could obtain recordings from any Amazon Echo so long as they obtain them from Amazon's servers). Telecommunications companies and internet service providers may have their own Fourth Amendment rights in user-related data. But users would have no rights in such information, and the government could easily obtain it by request, subpoena, or other means. The heavily regulated companies that control such data would have strong incentives to comply with government requests, and users would have no constitutional standing to challenge any illegal searches. *Cf.* United States v. Payner, 447 U.S. 727, 732 (1980) (holding that a bank customer lacked standing to challenge the government's unlawful theft of a bank employee's briefcase containing documents relevant to the customer's finances).

342. Although the Court has traditionally protected non-residential property under the Fourth Amendment, it would presumably not be protected under Justice Thomas's text-and-history-based approach. *See* Oliver v. United States, 466 U.S. 170, 177 n.7 (1984) (noting that "[t]he Framers would have understood the term 'effects' to be limited to personal, rather than real, property"); Maureen E. Brady, *The Lost "Effects" of the Fourth Amendment: Giving Personal Property Due Protection*, 125 YALE L.J. 946, 982–87 (2016) (detailing how drafting history and Founding-era sources indicate that "effects" are synonymous with personal, chattel property); *cf.* Bellin, *supra* note 336, at 24–27 (noting the Court's antitextualist precedents).

would still be prohibited,[343] numerous forms of modern surveillance would be unchecked by the Fourth Amendment.

To be sure, legislatures would eventually fill some of these gaps.[344] But legislative protections would necessarily be defeasible and non-constitutional, subject to rapid repeal if the political winds were to change. Justifying a general shift away from constitutional protection and towards greater legislative control of public policy would require a much broader theoretical argument than advocates of *Olmstead*-based approaches have offered to date.[345]

Moreover, legislative regulation of surveillance must overcome powerful institutional obstacles.[346] It is likely to occur, if at all, years or decades after new technologies are used to monitor citizens.[347] Yet legislation would be the only protection available for most modern forms of information under Justice Thomas's approach. In short, an *Olmstead*-like regime is likely to be severely under-protective of citizen privacy relative to other approaches.

V. APPLYING THE NEW MODEL

The normative approach requires courts to overtly examine the concrete benefits and harms of government surveillance. This direct analysis will often clarify what the "reasonable expectation of privacy" test obscures. The normative approach can resolve novel cases more effectively and clearly than the *Katz* test, which struggles with new technologies and social practices.[348] It can also provide a better foundation for cases with sound outcomes but dubious rationales. Finally, the normative model can reveal existing cases that are seriously flawed and ripe for reversal.

343. Bellin, *supra* note 336, at 61.

344. *Id.* at 60.

345. Strong arguments along these lines have been made by scholars criticizing judicial review of statutes, although such arguments thus far have received relatively little traction outside of the academy. *E.g.*, Jeremy Waldron, *The Core of the Case Against Judicial Review*, 115 YALE L.J. 1346 (2006).

346. *See supra* notes 322–24.

347. *See supra* notes 323, 340; *see also* Tokson, *supra* note 13, at 193.

348. *See supra* notes 220–23 and accompanying text.

A. DECIDING FRONTIER CASES

A primary virtue of the normative test is that it can resolve with relative ease many cases that are difficult to assess under the *Katz* regime. It decides cases involving new forms of surveillance effectively without bogging down in a futile inquiry about societal expectations towards novel technologies. Indeed, the *Katz* approach can leave Fourth Amendment protection for a new technology unresolved long after its adoption by the general public.[349]

Several decades after the popularization of email, the Supreme Court has yet to determine whether the contents of emails and other text-based electronic communications are protected by the Fourth Amendment.[350] Further, the leading appeals court case on emails declined to reach a definitive ruling, instead holding that protection for emails is dependent on the specifics of email service privacy policies and user agreements.[351] The Fourth Amendment would not apply, for example, to emails governed by a privacy policy that allows a service provider to inspect or monitor a user's emails.[352] This echoed a previous en banc decision, which stated that "the expectation[ ] of privacy that computer users have in their emails . . . assuredly shifts from internet-service agreement to internet-service agreement," depending on the specific terms of each agreement.[353]

Whether emails are protected under the Fourth Amendment remains unresolved outside of the Sixth Circuit, and even in that circuit, it is unknown whether third-party email services that electronically inspect user emails strip those emails of Fourth Amendment protection.[354] The normative test would resolve

349. *See e.g.,* Kyllo v. United States, 533 U.S. 27, 40 (2001) (addressing infrared technology).

350. To be sure, dicta in *Carpenter* suggests that the Justices intuitively favor extending Fourth Amendment protection to emails. *See* Carpenter v. United States, 138 S. Ct. 2206, 2220 (2018). But the Justices have not assessed email collection in any depth nor addressed the user agreements and electronic inspection issues that threaten to undermine Fourth Amendment protection for emails.

351. United States v. Warshak (*Warshak III*), 631 F.3d 266, 287 (6th Cir. 2010).

352. *Id.*

353. Warshak v. United States (*Warshak II*), 532 F.3d 521, 526–27 (6th Cir. 2008) (en banc).

354. *See* Dana T. Benedetti, *How Far Can the Government's Hand Reach Inside Your Personal Inbox?: Problems with the SCA*, 30 J. MARSHALL J. INFO.

these open issues definitively. The harms to individuals of widespread government inspection of the contents of emails are potentially enormous. There would be a profound chilling effect on both the volume and the content of personal communications, especially intimate or controversial communications. The scope and vigor of the ideas conveyed via email would decrease, political activism would be hampered, and personal relationships would be harmed and, in some cases, substantially diminished.

At first glance, the law enforcement benefits of allowing the government to read every citizen's emails might also seem substantial, albeit not great enough to outweigh the enormous costs. But the benefits to law enforcement may be far less extensive than they initially appear. The vast majority of crimes—robberies, car thefts, drug crimes, murders, assaults, etc.—are unlikely to be discussed via email either before or after the crime. The volume of intimate communications captured or chilled by government observations would be exponentially higher than the volume of emails remotely relevant to legitimate law enforcement. Moreover, there is an ironic benefit to law enforcement in confining email observation to those cases where the police have probable cause. In a world where the police review virtually everyone's emails, even unsophisticated criminals will avoid discussing their crimes via email or take care to securely encrypt their emails. By contrast, the currently low probability that any given email will be read encourages criminals to occasionally use email in the course of their crimes. The very difficulty of generating probable cause helps ensure that, when the police do have probable cause, they often find evidence.[355] For all of these reasons, the normative test would universally protect citizens from the routine government inspection of personal communications, rather than leaving them unprotected or basing protection on the unread fine print of their software user agreements.

A similar analysis could be performed for newer technologies such as smart homes and voice-controlled home speakers like the Amazon Alexa. The chilling effects and psychological harms inflicted by government monitoring of in-home cameras and microphones would be massive. The benefits to law enforcement would be dwarfed by such harms, and a substantial

TECH. & PRIVACY L. 75, 91 (2013).

355. *See* Minzner, *supra* note 181, at 923–25.

amount of criminal activity would simply be relocated to the basement or the back yard.

B. FIXING CASES WITH UNSOUND RATIONALES

Many cases decided under the *Katz* test are poorly reasoned—full of incoherent statements about societal expectations or unworkable standards that make a muddle of future cases.[356] Yet many of the same cases reach sound or at least defensible outcomes.[357] The normative test can provide a more coherent justification of these outcomes and avoid the perils of expectation-based rationales.

For example, the Court in *United States v. Miller* held that the Fourth Amendment did not apply to bank records, such as checks and deposit slips, relating to an individual's bank account.[358] The Court dubiously asserted that customers lose any expectation of privacy in their bank records because the records are voluntarily conveyed to the banks and are "exposed to their employees in the ordinary course of business."[359] This reasoning has been criticized extensively.[360] But the outcome of *Miller*, at least as applied to account balances, checks, and deposit slips rather than more revealing data like credit card purchase information, is defensible under the normative test and likely undeserving of reversal.

To summarize, allowing the government to access bank records is unlikely to harm interpersonal relationships or intimate communications. There appears to be little in the psychological literature on harmful effects of government scrutiny of one's fi-

356. *E.g.*, Kyllo v. United States, 533 U.S. 27, 34 (2001) (noting that infrared scans of houses might be permissible were "the technology in question . . . in general public use"); California v. Ciraolo, 476 U.S. 207, 213–14 (1986) (finding no reasonable expectation of privacy against overflight observation of the backyard of a home despite the homeowner enclosing the yard with high double fences).

357. *See, e.g.*, California v. Greenwood, 486 U.S. 35, 37 (1988).

358. *See* United States v. Miller, 425 U.S. 435, 440 (1976).

359. *Id.* at 442.

360. *See, e.g.*, Gerald G. Ashdown, *The Fourth Amendment and the "Legitimate Expectation of Privacy,"* 34 VAND. L. REV. 1289, 1313–14 (1981); Katherine J. Strandburg, *Home, Home on the Web and Other Fourth Amendment Implications of Technosocial Change*, 70 MD. L. REV. 614, 662 n.247 (2011) (noting that the *Miller* court might have been wrong in analyzing bank records as business records of the banks).

nances, although surveys indicate that people find it fairly invasive.[361] The potential for substantial harm may be limited, however, as the information disclosed in one's deposit slips, negotiable instruments, and account balances is unlikely to reveal drastically more than citizens already reveal to the government in the course of paying their taxes. Government scrutiny of bank records may also chill certain legitimate activities in rare cases. These might include the transfer of money to activist groups, foreign entities, or other lawful groups disfavored by the state. These harms are non-trivial, albeit less profound than those at issue in cases involving email searches or searches of the home. Yet the criminal enforcement benefits of obtaining bank records are substantial and unique. As the Court briefly noted in *Miller*, bank records have a "high degree of usefulness in criminal, tax, and regulatory investigations and proceedings."[362] White-collar investigations are unique in that they typically lack physical evidence or neutral witnesses.[363] A rule that law enforcement must have probable cause before accessing financial records "would end many white-collar criminal investigations before they had begun."[364] Thus a court could hold that subpoenaing bank records other than detailed credit card records is not a Fourth Amendment search, reasoning that such records are not especially sensitive and their benefits to law enforcement are extensive. The normative test provides a basis for *Miller*'s holding that avoids the Court's privacy-eroding rationale, which declared that any sharing of information with a third party eliminates Fourth Amendment protection.[365]

A similar rethinking could benefit cases like *Kyllo v. United States*, which held that the infrared scanning of a house was a Fourth Amendment search.[366] *Kyllo* limited its holding to surveillance technologies that were not in "general public use," as people would presumably have no expectation of privacy against

361. Slobogin & Schumacher, *supra* note 133, at 737–38 tbl.1. It was rated as more invasive than questioning someone on the sidewalk for ten minutes, but less invasive than searching a corporation's computer. *Id.* The study did not examine the harms of such surveillance, if any.

362. *Miller*, 425 U.S. at 443 (quoting 12 U.S.C. § 1829b(a)(1) (1970)).

363. *See* William J. Stuntz, *O.J. Simpson, Bill Clinton, and the Transsubstantive Fourth Amendment*, 114 HARV. L. REV. 842, 859–60 (2001).

364. *Id.* at 860; *see also* Kerr, *supra* note 71, at 509.

365. *See Miller*, 425 U.S. at 442–43.

366. Kyllo v. United States, 533 U.S. 27, 40 (2001).

a technology that was widely used to observe or record their activities.[367] The normative test could resolve the issue without the ambiguous "general public use" limitation, on the basis that infrared scanning to detect activities occurring inside private homes could cause serious harms and chilling effects on a variety of private activities within the home, and the benefits of detecting mostly low-level drug crimes do not come close to justifying such an intrusion.[368]

C. IDENTIFYING AND REVERSING FLAWED CASES

The normative approach can also identify existing cases that are especially flawed and ripe for reversal. In *California v. Greenwood*, for instance, the Court held that opening citizens' trash bags left on the curb and examining their trash is not a Fourth Amendment search.[369] The Court reasoned that the defendants had no expectation of privacy because "[i]t is common knowledge that plastic garbage bags left on or at the side of a public street are readily accessible to animals, children, scavengers, snoops, and other members of the public" and thus "respondents exposed their garbage to the public sufficiently to defeat their claim to Fourth Amendment protection."[370]

Although unsubstantiated claims about societal knowledge might support the Court's holding, the normative test does not. A homeowner's trash is especially revealing of the activities that occur inside of a home, likely more revealing than the infrared heat scan in *Kyllo*. If trash surveillance were to become widespread, the intimate activities of the home would be exposed to the observation and judgment of others.[371] Such observation can lead to chilling effects or to significant psychological harm.[372]

367. *Id.*

368. *See id.* at 37 (noting that all activities occurring within the home are intimate activities).

369. California v. Greenwood, 486 U.S. 35, 40 (1988).

370. *Id.*

371. Trash inspection has not yet become widespread, but the government could lawfully embark on a program to inspect every citizen's trash at any time, without legal check. As discussed above, previously unthinkable programs of surveillance often arise as the costs of information collection and processing decrease. *See supra* note 240.

372. *See* Slobogin & Schumacher, *supra* note 133, 737–38 tbl.1; sources cited *supra* notes 92, 130.

Trash surveillance also threatens intimate relationships by exposing them to invasive scrutiny. The sexual and other intimacies of a home are revealed in its trash, and the relationships involved may be deterred or diminished by outside observation.[373]

Even the considerable law enforcement benefits of examining citizens' trash are insufficient to justify such invasive surveillance. In a world of pervasive trash inspection, criminals are less likely to throw away incriminating documents or evidence; the hassle of shredding or burning such evidence would be well worth avoiding imprisonment.[374] Even setting these dynamic effects aside, trash surveillance is likely to be most effective at detecting discarded drug paraphernalia, as in the *Greenwood* case.[375] Not only may there be less value in pursuing low-level drug crimes, but police may be able to investigate more serious drug-trafficking crimes by other means. The police in *Greenwood*, for instance, may have had probable cause to search Greenwood's house even without the trash inspection, having observed heavy vehicular traffic at night, cars visiting the house at night for only a few minutes, and a truck that drove from the house to a narcotics-trafficking location.[376] The police might have also generated additional proof by pulling over the visiting cars based on reasonable suspicion of drug possession.[377] In short, the normative test counsels in favor of overturning *Greenwood*, an especially egregious application of the *Katz* test that allows police to dig through any person's trash without suspicion. The normative approach would protect the intimate details of people's activities inside their homes from arbitrary government scrutiny.

The normative model might also spur a rethinking of *Arizona v. Hicks*, where a divided Court held that moving stereo equipment in order to view its serial number was a Fourth Amendment search.[378] It is likely that the de minimis harm caused by such inspection is outweighed by the potential benefits

373. *See* Gerstein, *supra* note 111, at 268–69; Nissenbaum, *supra* note 113, at 138–39.

374. *See supra* text accompanying note 355.

375. *Greenwood*, 486 U.S. at 38.

376. *Id.* at 37.

377. *See* United States v. Sharpe, 470 U.S. 675, 682 (1985).

378. Arizona v. Hicks, 480 U.S. 321, 324–25 (1987).

of deterring crime and recovering stolen property, such that no warrant should be required.

Finally, the normative approach may counsel rejecting the emerging appeals court consensus that the Fourth Amendment does not apply to the Internet Protocol (IP) addresses that a user visits while surfing the internet.[379] These addresses can reveal the content or at least the subject matter of the websites that a user visits.[380] Such surveillance is likely to deter legitimate internet communications and research, potentially stunting intellectual development and exploration.[381] Further, the evidence generated by such monitoring is likely to be weak and circumstantial, while evidence of internet-based crimes can likely be generated through less invasive means.[382]

CONCLUSION

Fourth Amendment law has undergone several dramatic shifts over the course of its history, as courts have struggled to preserve citizens' privacy in the face of new surveillance practices and technologies.[383] The *Katz* test was a particularly important shift. It allowed courts to regulate non-physical surveillance practices by focusing on people's "reasonable expectations of privacy," rather than on property.[384] But the test has been deeply flawed from the start, and it is rightly criticized today as incoherent, tautological, and arbitrary. Increasingly, as

379. *See, e.g.*, United States v. Ulbricht, 858 F.3d 71, 97–98 (2d Cir. 2017); United States v. Forrester, 512 F.3d 500, 510 (9th Cir. 2008). IP addresses are sequences of numbers assigned to each computer or other Internet-enabled device that is active on a network.

380. Matthew J. Tokson, *The Content/Envelope Distinction in Internet Law*, 50 WM. & MARY L. REV. 2105, 2147–50 (2009).

381. *See, e.g.*, Richards, *supra* note 65, at 389, 421; Marthews & Tucker, *supra* note 90, at 37.

382. For example, the police could obtain a warrant to capture the IP addresses that communicate with a website trafficking in child pornography or selling illegal goods.

383. *See* Olmstead v. United States, 277 U.S. 438, 464 (1928) (holding that the Fourth Amendment is limited to tangible things); Katz v. United States, 389 U.S. 347, 353 (1967) (declaring that the Fourth Amendment's scope is not based on physical intrusion but is determined by expectations of privacy); United States v. Jones, 132 S. Ct. 945 (2012) (holding that the Fourth Amendment's scope is also determined by trespass concepts); Florida v. Jardines, 133 S. Ct. 1409 (2013) (abandoning the trespass concept for a concept based on physical touching and social norms).

384. *Katz*, 389 U.S. at 362 (Harlan, J., concurring).

knowledge of threats to privacy grows and an ever-greater proportion of our data is made accessible to third parties, societal expectations are unable to serve as an adequate foundation for the Fourth Amendment's protections.

The normative test offers a better approach to determining the Fourth Amendment's scope. It is both more consistent with the historical purposes of the Amendment and far more resilient to social and technological change. Its factors capture the fundamental harms of government surveillance and are firmly grounded in precedent and pragmatic surveillance theory. Further, its analysis is direct and transparent, avoiding false targets and arbitrary distinctions. It is better able to address the widespread surveillance programs that increasingly pose the greatest threats to citizen security. And it provides a superior method for deciding frontier cases and resolving controversies about existing decisions.

The Supreme Court has been slow to adopt new Fourth Amendment paradigms in the past. It took the Court nearly forty years to overrule *Olmstead v. United States*,[385] which ruled that the Fourth Amendment did not apply to microphones or wiretaps. During those decades, the government engaged in a massive program of bugging and wiretapping private citizens.[386] It used these recordings to monitor and undermine political groups, intimidate members of Congress, and threaten civil rights leaders, among numerous other abuses.[387] These abuses did not come to light until long after the damage had been done.[388]

Fourth Amendment law is in need of another paradigm shift, one that will enable courts to protect privacy in a world of ever-changing and expanding surveillance technologies. If history is any guide, the time for such a change is now. The normative test, like any legal test, has both advantages and drawbacks. But in the world of modern surveillance, it offers the best way forward for Fourth Amendment law.

385. *Olmstead*, 277 U.S. at 438 (1928).

386. *See, e.g.*, Tokson, *supra* note 133, at 583.

387. *Id.*

388. *See* FINAL REPORT OF THE SELECT COMM., *supra* note 205, at 183–85, 198–201.