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THE ANATOMY OF A SEARCH: INTRUSIVENESS AND THE FOURTH AMENDMENT

Renée McDonald Hutchins *

I. INTRODUCTION

For more than two months beginning in late December of 2005, police officers in New York State continuously monitored the location and movements of Scott Weaver's van using a surreptitiously attached global positioning system ("GPS") device, known as a "Q-ball."¹ The reason Weaver was targeted for police surveillance has never been disclosed.² In addition, law enforcement made no attempt to justify the heightened scrutiny of Weaver by seeking the pre-authorization of a warrant from a neutral magistrate.³ Rather, for sixty-five days, the police subjected Weaver to intense surveillance without oversight, interruption, or explanation.⁴

More than a year after the round-the-clock tracking ended, Weaver was charged with, and convicted of, two burglaries.⁵ At trial, the prosecution introduced evidence obtained from the Q-ball.⁶ The defense fought to keep the evidence out, asserting that the placement and monitoring of the Q-ball constituted an impermissible search under state and federal law.⁷ The trial court

* Assistant Professor, University of Maryland School of Law. For comments on earlier drafts, I thank Richard Boldt, Michael Van Alstine, the members of the University of Maryland School of Law's Faculty Development Workshop, the members of the Mid-Atlantic Criminal Law Research Collective, and the Faculty Workshop at the University of North Carolina School of Law, Chapel Hill.

1. *People v. Weaver*, 909 N.E.2d 1195, 1195–96 (N.Y. 2009).
2. *Id.* at 1196.
3. Brief of Defendant-Appellant at 5, *Weaver*, 909 N.E.2d 1195 (No. 2009-0053).
4. *Id.* at 5–6.
5. *Id.* at 2.
6. *Weaver*, 909 N.E.2d at 1196.
7. Brief for Defendant-Appellant, *supra* note 3, at 49–50.

rejected this claim.⁸ But in 2009, the New York Court of Appeals reversed, finding that the police action constituted an unconstitutional search.⁹ Though the New York court extensively discussed the strictures of the Fourth Amendment of the U.S. Constitution, it ultimately grounded its decision in the protections afforded by the state constitution.¹⁰ The court overturned Weaver's conviction and ordered a new trial (from which the GPS tracking evidence will be excluded).¹¹

Five days before the New York decision was issued, the intermediate appellate state court in Wisconsin also considered the police use of GPS tracking to keep tabs on a suspect.¹² The Wisconsin court, in direct conflict with the New York court's conclusions, determined that "neither a search nor a seizure occurs when the police use a GPS device to track a vehicle while it is visible to the general public."¹³ Conducting its own assessment of the constraints imposed by the Fourth Amendment, the Wisconsin court equated the GPS device with the tracking beepers evaluated by the Supreme Court of the United States in *United States v. Karo* and *United States v. Knotts*.¹⁴ Finding that the two devices performed essentially the same function, the Wisconsin court concluded that no constitutional protection should be afforded.¹⁵ Accordingly, the court affirmed the conviction and sentence.¹⁶

The decisions in *People v. Weaver* and *State v. Sveum* tell us far more than that New York and Wisconsin courts do not see eye to eye. The decisions are significant because they remind us that courts continue to wrestle with the appropriate treatment of novel technologies. The cases are also important because they illustrate

8. *Weaver*, 909 N.E.2d at 1196.

9. *See id.* at 1203.

10. *Id.* at 1202.

11. *Id.* at 1203.

12. *State v. Sveum*, 769 N.W.2d 53, 56 (Wis. Ct. App. 2009).

13. *Id.* at 58.

14. *Id.* (citing *United States v. Karo*, 468 U.S. 705, 708–10, 715–18, 718 n.5 (1984); *United States v. Knotts*, 460 U.S. 276, 284–85 (1983)).

15. *Id.* at 59. In 1996, prior to the charges at issue in the 2009 Wisconsin case, Michael Sveum had been convicted of stalking Jamie Johnson. *Id.* at 56. Sveum was sent to prison for related crimes. *Id.* In 1999, with the help of his sister and before his release, Sveum resumed his stalking of Johnson. *Id.* In 2002, he was released from prison and continued his stalking behavior. *Id.* In early 2003, Johnson alerted police of her concerns that the stalking had resumed. *Id.* While investigating Johnson's complaint, the police attached a GPS device to his car. *Id.*

16. *Id.* at 59–60.

the two avenues most often taken by state courts in the absence of further guidance from the Supreme Court. The first avenue—taken by the New York court—involves a state court opining about a just result under the U.S. Constitution but then retreating to its own state constitution to define the appropriate level of protection.¹⁷ The alternate route—taken by the Wisconsin court—relies upon the analytical apparatus of analogy. Specifically, the Wisconsin court recounted conclusions regarding an earlier generation of surveillance equipment and then, without extended analysis, determined that comparable treatment was warranted in the case before it.¹⁸ Retreating to state constitutions and drawing analogies to previously considered forms of surveillance create at least two problems.

First, as state courts increasingly look to their own constitutions to define the floor of protection, we are left with a patchwork of decisions that tolerates wildly conflicting treatment of near-identical police conduct. The New York and Wisconsin decisions are a conspicuous example of this predicament.¹⁹ Similarly, the lower federal courts are left to maneuver the sometimes obscure doctrinal outlines drawn by the Court. Where a clear path does not always connect one of the Court's search cases to the next, it will be little surprise if the same patchwork developing in the states is soon seen at the lower federal level. To the outside observer, the seeming randomness of the decisions undermines public perception of the system by allowing judicial opinions to be viewed not as the objective application of well-reasoned analysis, but as the implementation of individual judicial agendas. Moreover, at the street level, the seeming randomness of the decisions deprives law enforcement officers of objective and easy-to-apply rules that would better allow them to forecast permissible and impermissible police conduct.

Second, allowing the Court's assessment of earlier generations of surveillance technology to mechanically determine our tolerance of future generations of surveillance technology is problematic because in many cases the old conclusions fail to account for the greater intrusion occasioned by newer models. Therefore,

17. *People v. Weaver*, 909 N.E.2d 1195, 1202–03 (N.Y. 2009).

18. *Sveum*, 769 N.W.2d at 58–59 (citing *Karo*, 468 U.S. at 708–10, 715–18, 718 n.5; *Knotts*, 460 U.S. at 284–85).

19. *See Weaver*, 909 N.E.2d at 1202–03; *Sveum*, 769 N.W.2d at 58–59.

allowing the Court's earlier constitutional treatment of a less intrusive technique to reflexively mandate the constitutional treatment of a new technology undermines privacy protections.

In this essay, I contend that when evaluating the constitutionality of enhanced surveillance devices, the existing test for assessing the occurrence of a Fourth Amendment search should be modified. Specifically, I suggest that intrusiveness²⁰ should be unambiguously adopted by the Court as the benchmark for assessing and defining the existence of a search under the Fourth Amendment. Moreover, intrusiveness should be clearly defined to require an examination of two factors: the functionality of a challenged form of surveillance and the potential for disclosure created by the device.²¹

The modification that I propose hopefully infuses a bit more rigidity into the test for evaluating new technologies under the Fourth Amendment, while at the same time retaining much of the desirable flexibility of *Katz's* reasonableness inquiry. Adopting my proposed modification would allow state and lower federal courts to resolve questions raised by novel technologies in a more uniform manner and would enable them to avoid ill-suited analogies to earlier forms of enhanced surveillance. The modification also builds upon, rather than clearly breaks with, existing law, making its adoption feasible. Because my proposal about where the law should be is built upon my assessment of where the law is, a discussion of the existing law is perhaps a good place to start.

20. As discussed in greater detail below, see *infra* Part III, intrusiveness is defined to mean the character and quantity of information potentially revealed by a surveillance technique. See also Renée McDonald Hutchins, *Tied Up in Knotts? GPS Technology and the Fourth Amendment*, 55 UCLA L. REV. 409, 431–32 (2007). Other scholars have proposed competing definitions of intrusiveness. For example, Professor Slobogin proposes that intrusiveness be defined with reference to public opinion. CHRISTOPHER SLOBOGIN, *PRIVACY AT RISK: THE NEW GOVERNMENT SURVEILLANCE AND THE FOURTH AMENDMENT* 32–33 (2007).

21. I do not seek to clarify, at this time, the method for evaluating whether a seizure has occurred. The Court looks to different criteria for evaluating the existence of a seizure. *Michigan v. Chesternut*, 486 U.S. 567, 572 (1988) (“[A]ny assessment as to whether police conduct amounts to a seizure implicating the Fourth Amendment must take into account ‘all of the circumstances surrounding the incident’” (quoting *INS v. Delgado*, 466 U.S. 210, 215 (1984))). Consequently, considering the character and quantity of information revealed by government surveillance would tell us little about whether an individual has been “seized” within the meaning of the amendment.

II. HOW WE CURRENTLY DEFINE SEARCHES: KATZ AND THE RISE OF OBJECTIVE REASONABLENESS

The Fourth Amendment's prohibition against unreasonable searches is just one mechanism for protecting citizens against unjustified governmental invasions.²² The amendment's plain language suggests a two-part analysis in which a court first determines whether a *search* has occurred and, if so, then determines whether that search was unreasonable—and therefore constitutionally objectionable.²³ However, in answering the first question, the Supreme Court decoupled the existence of a search from a bare examination of police conduct, and instead determined that courts should examine whether a reasonable expectation of privacy existed—if not, then no search has occurred.²⁴ Further complicating matters, the Court has determined that constitutional reasonableness should largely be equated with pre-authorization by a warrant.²⁵ As a result, if conduct is defined as a search, it has largely become perforce unreasonable absent a warrant.²⁶ If conduct is not defined as a search, it is considered free of the amendment's strictures.²⁷

Since their inception, there has been much debate over both the reasonable expectation of privacy test and the warrant requirement. They have been both lauded as desirable constitutional mandates and pilloried as baseless judicial constructs.²⁸ However, whatever position one takes on the merits, there can be little dispute that the reasonable expectation of privacy analysis that has developed in the shadow of the warrant requirement is

22. There is a decades-long debate over whether the Court or Congress is best positioned to regulate sense-enhanced searches. Compare Orin S. Kerr, *The Fourth Amendment and New Technologies: Constitutional Myths and the Case for Caution*, 102 MICH. L. REV. 801, 806 (2004) (advancing legislative supremacy), with Anthony G. Amsterdam, *Perspectives on the Fourth Amendment*, 58 MINN. L. REV. 349, 379 (1974) (criticizing legislative supremacy). I have argued previously that the Fourth Amendment should take the leading oar in defining the appropriate contours of searches. Hutchins, *supra* note 20, at 454. This essay, therefore, begins with the baseline assumption that constitutional limits are the preferred course.

23. See U.S. CONST. amend. IV.

24. *Katz v. United States*, 389 U.S. 347, 361 (1967).

25. See *Agnello v. United States*, 269 U.S. 20, 33 (1925).

26. See *Carroll v. United States*, 267 U.S. 132, 153, 156 (1925).

27. See, e.g., *United States v. Jacobsen*, 466 U.S. 109, 122–23 (1984); *United States v. Place*, 462 U.S. 696, 707 (1983).

28. See, e.g., Aya Gruber, *Garbage Pails and Puppy Dog Tails: Is That What Katz Is Made Of?*, 41 U.C. DAVIS L. REV. 781, 783–85 (2008).

not terribly transparent.²⁹ The legal conclusion that a search has occurred is now significantly impacted by the Court's desire (or lack thereof) to saddle law enforcement with the burden of obtaining a warrant. Oftentimes, the Court appears to work backwards from its desired result to determine whether a reasonable expectation existed.³⁰ Moreover, the malleability of the reasonable expectation of privacy test has facilitated the opacity. As a result, great dissatisfaction with the Court's search jurisprudence has developed. Though there are many places one might choose to begin remedying the problem,³¹ this essay proposes that we start by refining the loosely articulated (but increasingly more relevant) objective reasonableness prong.

The Supreme Court's 1967 decision in *United States v. Katz* marked a shift in the doctrinal conception of a constitutionally significant search.³² The reasonable expectation of privacy test adopted in *Katz* is a two-part test that references, first, the subjective expectations of the defendant, and, second, the objective reasonableness of the defendant's desires.³³ Therefore, post-*Katz*, a search for purposes of the Fourth Amendment came to be defined as a governmental intrusion upon a subjective expectation of privacy that society is prepared to embrace as objectively reasonable.³⁴ In applying the test, the reviewing court considers first whether an individual has behaved in a manner that is consistent with a desire for privacy.³⁵ If the individual has, the court then considers whether that demonstrated desire for privacy is one

29. See, e.g., Jonathan Simon, *Katz at Forty: A Sociological Jurisprudence Whose Time Has Come*, 41 U.C. DAVIS. L. REV. 935, 948–50 (2008).

30. The Court recently conceded that it has on occasion found a search, in the plain sense of that word, to be a non-search for constitutional purposes. *Kyllo v. United States*, 533 U.S. 27, 32 (2001). According to Justice Scalia, this tendency is driven by the Court's desire to preserve "somewhat more intact" the presumption that warrantless searches are unconstitutional. *Id.* The clarification that I propose clearly cannot cure the Court's tendency to deliberately obfuscate. However, by importing greater rigor into the formula used to define searches, such deliberate obfuscation should become more difficult, or at least more transparent.

31. For example, Professor Sherry F. Colb in her thoughtful article, *What Is a Search? Two Conceptual Flaws in Fourth Amendment Doctrine and Some Hints of a Remedy*, 55 STAN. L. REV. 119, 122–24 (2002), suggests that we might right our Fourth Amendment jurisprudence by ceasing to equate a knowing risk of exposure with an invitation to expose and by refusing to treat a limited disclosure as the moral equivalent of a universal broadcast.

32. See 389 U.S. 347, 356–59 (1967).

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

34. *Id.*

35. See, e.g., *California v. Greenwood*, 486 U.S. 35, 39–43 (1988).

that warrants the protection of the law.³⁶ Exhaustive analysis of *Katz* (and the test that it generated) has been presented in academic journals many times over,³⁷ and I will not retread that familiar ground. However, what has garnered substantially less scholarly consideration is the significant shift in application of the two prongs of *Katz*—a shift that starkly favors objective reasonableness over subjective expectations.

Increasingly, significant analysis of the first prong of the *Katz* test is noticeably absent from the Court's search jurisprudence. While the subjective expectation prong of *Katz* is, at least officially, still viable, in practice it is given little consideration.³⁸ Indeed, a common complaint is that with the first step of the test becoming increasingly irrelevant, the absence of a clear definition for "objective reasonableness" at the second step creates unpredictable, and, at times, indefensible results. For example, contrary to common sense notions, police actions like tracking the numbers that you dial on your telephone or subjecting your luggage to a dog sniff have been deemed non-searches under the *Katz* test.³⁹ Even the Court has noted that society's communal assessment of whether privacy is justified will alternately trump both a clearly expressed individual desire for seclusion and a personal belief that privacy does not exist.⁴⁰ As early as 1984, the Supreme Court

36. *Id.*

37. *See, e.g.,* Gruber, *supra* note 28, at 785–92.

38. *See, e.g.,* Simon, *supra* note 29, at 948.

39. *United States v. Place*, 462 U.S. 696, 707 (1983); *Smith v. Maryland*, 442 U.S. 735, 744 (1979).

40. The Court has repeatedly noted that even significant efforts by an individual to keep an area concealed are not alone sufficient to justify constitutional protection. *See, e.g., Florida v. Riley*, 488 U.S. 445, 448, 450 (1989) (finding no Fourth Amendment application despite respondent's efforts to conceal the contents of his greenhouse—efforts which included placing the greenhouse on five acres of private property, enclosing two sides of the greenhouse with walls, and enclosing the other two sides with trees, shrubs and respondent's trailer home, and covering ninety percent of the roof of the greenhouse with translucent and opaque panels); *Greenwood*, 486 U.S. at 39–40 (refusing to extend Fourth Amendment protection despite an acknowledgment that respondents "did not expect that the contents of their garbage bags would become known to the police or other members of the public"); *California v. Ciraolo*, 476 U.S. 207, 209, 213–14 (1986) (refusing to find a justifiable expectation of privacy, though Ciraolo had constructed two fences around the entire perimeter of his property—the first six feet tall and the second ten feet tall); *Oliver v. United States*, 466 U.S. 170, 182–83 (1984) (declining to extend Fourth Amendment protection despite a finding that "Oliver and . . . Thornton, in order to conceal their criminal activities, planted the marihuana upon secluded land and erected fences and 'No Trespassing' signs around the property"). The Court has also found that a legitimate expectation may exist even if the target of government surveillance does not "in fact entertain any actual expectation of privacy." *Smith*, 442 U.S. at 740 n.5.

suggested that it had *always* elevated analysis of the objective reasonableness prong over consideration of subjective expectations.⁴¹

There are at least two plausible explanations for why diminished use of the subjective expectations prong might be occurring. First, it could be said that the diminished focus on subjective expectations is driven by the practical reality that individuals rarely engage in criminal conduct without taking at least nominal efforts to avoid detection.⁴² It is, therefore, the rare case where some showing of a desire for personal privacy is not manifest.⁴³ Under these circumstances, treating the subjective expectation prong as an equal partner in the analysis would force the Court to engage in unreasonable contortions to avoid inappropriate application of the Fourth Amendment.

However, a more comprehensive explanation for the shift is an observation the Supreme Court made nearly three decades ago. When an individual expectation of what privacy *is* does not comport with our communal expectations of what privacy *ought to be*, the normative inquiry must prevail.⁴⁴ This is because an analytical structure that gives significant weight to subjective expectations alternately protects too much and too little.⁴⁵

Defining constitutional protection by considering only an individual's desires could lead to ridiculous outcomes. For example, if the scope of the Fourth Amendment was defined exclusively by considering what the targeted individual wanted, police officers

41. *Hudson v. Palmer*, 468 U.S. 517, 525 n.7 (1984); *see also* *United States v. White*, 401 U.S. 745, 751–52 (1971) (“Our problem is not what the privacy expectations of particular defendants in particular situations may be Our problem, in terms of the principles announced in *Katz*, is what expectations of privacy are constitutionally ‘justifiable.’”); *id.* at 786 (Harlan, J., dissenting) (“The analysis must, in my view, transcend the search for subjective expectations [W]e should not, as judges, merely recite the expectations and risks without examining the desirability of saddling them upon society.”).

42. It bears mention that criminal cases are not the only matters that implicate the Fourth Amendment’s ban on unreasonable searches and seizures. *See, e.g.*, Peter Price, Comment, *When Is a Police Officer an Officer of the Law?: The Status of Police Officers in Schools*, 99 J. CRIM. L. & CRIMINOLOGY 541, 568 (2009) (discussing searches by school officials). However, with the presumptive remedy being exclusion of the illegally searched or seized evidence, the overwhelming majority of cases raising Fourth Amendment concerns are now those involving the state or federal prosecution of crimes.

43. Gruber, *supra* note 28, at 792 (observing that “there should be a near presumption of subjective expectation of privacy, given that every case involves illegal behavior, something people presumably seek to keep clandestine”).

44. *Smith*, 442 U.S. at 740–41 n.5.

45. *Cf. Kerr*, *supra* note 22, at 808.

could be expected to ignore criminal acts committed on deserted public streets.

Conversely, as the Supreme Court recognized in *Smith v. Maryland*, relying too heavily upon the subjective expectation prong might “provide an inadequate index of Fourth Amendment protection.”⁴⁶ This is because giving substantial weight to the first prong of the test can tend to diminish the range of official intrusions that can be addressed by the amendment.

The concern identified by the *Smith* Court is significant. As some justices and many scholars have recognized, the government can easily manipulate subjective expectations. By simply broadcasting a new surveillance regime, the government can eliminate an entire zone of privacy the populace previously enjoyed (e.g., all carry-on luggage at the airport is subject to physical search), or it can alter the natural development of societal expectations such that the population never anticipates a zone of privacy at all (e.g., all new model cellular phones must be equipped to allow pinpoint location tracking whenever the telephone is turned on).⁴⁷ Where our individual desires are conditioned by a modern culture that has grown accustomed to traffic cameras and information technology screeners, giving considerable weight to an individual forecast of the scope of privacy rights allows for the incremental diminution of constitutional protections.⁴⁸ As we become increasingly accustomed to, and accepting of, a variety of intrusions upon our privacy,⁴⁹ the zone of behavior considered constitutionally defensible shrinks to the extent that zone is calculated by significant reliance upon the first prong of *Katz*.

46. 442 U.S. at 740–41 n.5.

47. The Court in *Smith v. Maryland* cited time spent under totalitarian regimes and hypothetical announcements of future civil liberties restrictions by the government as two possible reasons for improperly diminished expectations of privacy on an individual level. *Id.* The Court did not, however, suggest that these were the only methods of reducing subjective expectations. Today, increased awareness of the enhanced intrusiveness of technology as a result of popular media coverage, movies, and books is arguably an even greater threat to subjective expectations of privacy than the examples highlighted by the *Smith* Court.

48. *See id.*; cf. Orin S. Kerr, *Do We Need a New Fourth Amendment?*, 107 MICH. L. REV. 951, 960 (2009) (reviewing CHRISTOPHER SLOBAGIN, *PRIVACY AT RISK: THE NEW GOVERNMENT SURVEILLANCE AND THE FOURTH AMENDMENT* (2007) (commenting upon the role of the media in shaping public perceptions about privacy)).

49. *See generally* DANIEL J. SOLOVE, *THE DIGITAL PERSON: TECHNOLOGY AND PRIVACY IN THE INFORMATION AGE* (2004) (discussing privacy expectations in the digital age).

It is in response to the above concerns that the second prong of the *Katz* analysis—objective reasonableness—has come to do much of the heavy lifting.⁵⁰ In case after case, the Court essentially concedes the existence of a subjective expectation of privacy before turning to devote extended discussion to the objective reasonableness of this expectation.⁵¹ So, for example, in *United States v. Jacobsen*, the Court surmised that Jacobsen probably did not want the police to discover that the package he shipped contained cocaine.⁵² However, the Court quickly dismissed the significance of this observation, noting that “an interest in privacy that society is prepared to recognize as reasonable is, by its very nature, critically different from the mere expectation, however well justified, that certain facts will not come to the attention of the authorities.”⁵³ The Court made no further comment on Jacobsen’s subjective expectation of privacy in the cocaine before turning to its analysis of the objective reasonableness of Jacobsen’s expectation.⁵⁴

Similarly, in *California v. Ciraolo*, the Court accepted that Ciraolo had “met the test of manifesting his own subjective intent and desire to maintain privacy as to his unlawful agriculture pursuits.”⁵⁵ However, as it had in *Jacobsen*, the Court immediately dismissed the import of its observation for purposes of assessing the reach of the Fourth Amendment.⁵⁶ The Court spent the remainder of its decision discussing “the second inquiry under *Katz*.”⁵⁷ Despite the Court’s embrace of the objective assessment,

50. Stephen E. Henderson, *Learning from All Fifty States: How to Apply the Fourth Amendment and Its State Analogs to Protect Third Party Information from Unreasonable Search*, 55 CATH. U. L. REV. 373, 377–78 (2006).

51. In other areas of the law, too, the Court has signaled a preference for objective tests over more subjective inquiries. For example, when assessing whether a seizure has taken place or whether consent to search has been granted, the Court’s inquiry turns almost exclusively upon an objective assessment of the police conduct or the effect that conduct may have had on the target. *See, e.g., Florida v. Bostick*, 501 U.S. 429, 439 (1991) (finding that the appropriate standard for assessing whether a seizure had occurred to be a “reasonable person” test). *See generally* Ric Simmons, *Not “Voluntary” but Still Reasonable: A New Paradigm for Understanding the Consent Searches Doctrine*, 80 IND. L.J. 773, 781–82 (2005) (discussing the Court’s decision in *Bostick*).

52. *See* 466 U.S. 109, 114 (1984) (explaining that the wrapped parcel in this case falls within “the general class of effects in which the public at large has a legitimate expectation of privacy”).

53. *Id.* at 122.

54. *Id.*

55. 476 U.S. 207, 211 (1986).

56. *Id.* at 211–12.

57. *Id.* at 212.

it has not clearly defined what that assessment entails. The next section examines the problems created by the rise of the objective reasonableness prong in the absence of clarity of its meaning.

III. THE PROBLEM WITH THE CURRENT METHOD: FUZZY DEFINITIONS PLUS TWO ANALYTICAL LEAPS EQUALS LIMITS ON CONSTITUTIONAL PROTECTION

One key advantage of the current method for defining searches is that an analysis driven by objective reasonableness—instead of subjective expectations—appropriately recasts the question of Fourth Amendment application as a normative one: Where do we, as a society, think the line should be drawn when it comes to official intrusions upon privacy?⁵⁸ However, problems persist. Despite the presumptive dominance of an objective assessment, the Court has not fully refined the standard for purposes of defining a search. In the absence of such clarification, the risk is that the *Katz* test devolves into an amorphous standard that can be easily manipulated to mean whatever the particular group of Justices forming a majority on the date of decision wants it to mean.⁵⁹ Indeed, detractors of the Court's current search jurisprudence routinely identify this as a critical weakness. Though far from the only critique,⁶⁰ the most common complaint about the Court's current search jurisprudence is that it offers little guidance to the judges who are asked to apply it.⁶¹

The second prong of the *Katz* test—which drives that jurisprudence—has been criticized as “a virtually standardless concept of

58. As Professor Anthony Amsterdam noted more than three decades ago, “[f]ortunately, neither *Katz* nor the fourth amendment [sic] asks what we expect of government. They tell us what we should demand of government.” Amsterdam, *supra* note 22, at 384.

59. See, e.g., Gruber, *supra* note 28, at 791 (noting that “the *Katz* test itself is fluid, vague, and liable to produce wildly varying results”).

60. Commentators have also wisely noted that adoption of the third-party doctrine and notions of risk assumption have done much to undermine the privacy protective value of the Fourth Amendment. See, e.g., Colb, *supra* note 31, at 122 (observing that the Court has allowed knowing risk of exposure to be equated with an invitation for such exposure, and has allowed minor intrusions upon privacy to justify subsequent larger ones).

61. Lawrence Rosenthal, *The Crime Drop and the Fourth Amendment: Toward an Empirical Jurisprudence of Search and Seizure*, 29 N.Y.U. REV. L. & SOC. CHANGE 641, 677 (2005) (“[C]urrent thinking about the Fourth Amendment . . . results in judges deciding cases based on highly selective value judgments.”).

reasonableness.”⁶² And, as some commentators note, the failure to adequately guide the normative query leaves our citizenry unprotected against “the ‘hydraulic pressures’ favoring expansive police power at the expense of privacy and liberty.”⁶³ Even some Justices have complained that case outcome is at times motivated not by any actual assessment of what is objectively reasonable, but rather by the caprice of the majority.⁶⁴ While there is merit in these critiques, we need not toss the existing law and begin from scratch.⁶⁵

Though the Court has not defined precisely what it means by objective reasonableness, it has suggested factors that are relevant to the inquiry.⁶⁶ Accordingly, while some argue that there is no organizing principle that justifies the Court’s treatment of enhanced surveillance,⁶⁷ I disagree. A close review of the cases reveals that, with regard to sensory enhanced searches, the Court has found the most relevant factor in the analysis to be the intrusiveness of government surveillance.⁶⁸ In this context, the Court does not use the term in its popular sense.⁶⁹ Rather, beginning

62. *Id.*; see also Gruber, *supra* note 28, at 794 (noting “[t]he Court’s tendency to twist the reasonableness inquiry into a tool to undermine typical privacy expectations”).

63. Morgan Cloud, *A Liberal House Divided: How the Warren Court Dismantled the Fourth Amendment*, 3 OHIO ST. J. CRIM. L. 33, 72 (2005) (quoting *Terry v. Ohio*, 392 U.S. 1, 39 (1968) (Douglas, J., dissenting)).

64. *Hudson v. Palmer*, 468 U.S. 517, 549 (1984) (Stevens, J., concurring in part and dissenting in part) (“[The Court’s] perception of what society is prepared to recognize as reasonable is not based on any empirical data; rather it merely reflects the perception of the four Justices who have joined the opinion that THE CHIEF JUSTICE has authored.”).

65. *Cf. Kerr*, *supra* note 48, at 966 (noting that in the realm of Fourth Amendment jurisprudence, the Court “should tweak the law, not rework it from first principles”).

66. The Court has said generally that the objective reasonableness prong of *Katz* can be resolved by broadly referencing property law concepts. See, e.g., *Rakas v. Illinois*, 439 U.S. 128, 144 n.12 (“[O]ne who owns or lawfully possesses or controls property will in all likelihood have a legitimate expectation of privacy by virtue of this right to exclude.”). The Court has also legitimated subjective expectations that it finds align with the Framers’ notions of reasonableness. *Id.* at 153 (Powell, J., concurring) (“The Court on occasion also has looked to history to discern whether certain types of government intrusion were perceived to be objectionable by the Framers of the Fourth Amendment.”).

67. David E. Steinberg, *Sense-Enhanced Searches and the Irrelevance of the Fourth Amendment*, 16 WM. & MARY BILL RTS. J. 465, 467 (2007) (“The Supreme Court has failed to develop a coherent body of law that governs sense-enhanced searches.”).

68. See, e.g., *United States v. Jacobsen*, 466 U.S. 109, 122–23 (1984) (finding that a field test which revealed only the presence of cocaine was not a search).

69. Professor Kerr has suggested that the popular understanding of intrusiveness is related to notions of surprise. Pursuant to his theory, “[t]he more surprising a technique is, the more it jolts the status quo, the more it will upset expectations, and the more intrusive it will appear.” *Kerr*, *supra* note 48, at 958. However, as Professor Kerr rightly observes, when intrusiveness is equated with surprise, “[m]easuring intrusiveness does not

with *Katz*, the Court has used intrusiveness to capture two related inquiries: (1) what type of information does the government's enhanced surveillance method uncover, and (2) how much information can the surveillance device potentially disclose?⁷⁰ Depending upon the answers to these two questions, particular forms of enhanced warrantless surveillance are either approved as constitutional or banned as unreasonably intrusive. For example, the Court has used the intrusiveness inquiry to approve the warrantless use of devices that secretly transmit the numbers dialed on a telephone, but has disapproved devices that secretly record the substance of the conversation once the call is connected.⁷¹ The Court has also used the intrusiveness inquiry to authorize both dog sniffs of closed containers and chemical field tests for narcotics—procedures that the Court has repeatedly described as occasioning only a trivial intrusion.⁷² Similarly, aerial photographs of private property are permitted as long as they re-

actually measure how much a technique infringes on civil liberties." *Id.* at 959.

70. In 2007, I described these two inquiries as examinations of the "quality" and "quantity" of information. See Hutchins, *supra* note 20, at 431 nn.121 & 122. That terminology and the underlying analysis are echoed by the Court of Appeals of New York in its recent *Weaver* decision. See *People v. Weaver*, 909 N.E.2d 1195, 1199–1200 (N.Y. 2009) ("What the technology yields and records with breathtaking quality and quantity, is a highly detailed profile, not simply of where we go, but by easy inference, of our associations—political, religious, amicable and amorous, to name only a few—and of the pattern of our professional and avocational pursuits.").

71. Compare *Smith v. Maryland*, 442 U.S. 735 (1979) (affirming the warrantless use of a pen register), with *Katz v. United States*, 389 U.S. 347 (1967) (declaring unconstitutional the warrantless monitoring of defendant *Katz's* conversation on a public pay phone). Professor Kerr and others have suggested that the result in the *Smith* case was motivated not by analysis under *Katz*, but by application of notions of consent. See Orin S. Kerr, *The Case for the Third-Party Doctrine*, 107 MICH. L. REV. 561, 587–88 (2009); see also Gruber, *supra* note 28, at 802 (suggesting that *Smith* should be read primarily as a case governed by the third party doctrine). Professor Kerr makes a robust argument in defense of his theory. While I agree that consent has significant appeal as a rationale for the decision, I question whether Justice Marshall's dissent in *Smith*, which noted that "[it] is idle to speak of 'assuming' risks in contexts where, as a practical matter, individuals have no realistic alternative," *Smith*, 442 U.S. at 750, applies with equal force to Professor Kerr's consent theory. Cf. Colb, *supra* note 31, at 144–50 (explaining how the Court's broad construction of the consent (and related) doctrines has undermined the effectiveness of the Fourth Amendment's protections). In any event, there is, without question, more than one lens through which the Court's search jurisprudence can be understood. I posit that, for technologically enhanced investigations, the straightest line can be drawn through the existing case law if it is organized around the notion of intrusiveness.

72. *United States v. Place*, 462 U.S. 696, 707 (1983) (describing police use of a trained narcotics detection dog as "much less intrusive than a typical search"); *Jacobsen*, 466 U.S. at 122 (dismissing a chemical field test for cocaine as only a minimal intrusion because it "could disclose only one fact previously unknown to the agent").

veal only minor details;⁷³ however, thermal imagers that reveal the intimate details of the home are not.⁷⁴

Intrusiveness is a useful concept that captures, in many respects, precisely what the Fourth Amendment was intended to protect against.⁷⁵ As countless legal scholars have noted, the protections enshrined in the Bill of Rights were in no small part born of the Framers' profound suspicion of a powerful police force.⁷⁶ The Fourth Amendment, which is an example of the depth of this suspicion, prevents the police from rummaging in our private affairs at will. Substantial official surveillance would be abhorrent to most Americans, even to those who are not doing anything wrong.⁷⁷ Intrusiveness as defined by the Court captures the offensiveness of such official rummaging.

However, noting that the Court has embraced a valuable tool for assessing the constitutionality of various forms of enhanced surveillance is not the end of the story. In employing that tool, the Court has made two analytical leaps that together create an undue contraction of the protections of the Fourth Amendment. These two leaps are (1) the ascendancy of the first prong of the intrusiveness inquiry, and (2) a focus on whether challenged information can *theoretically* be obtained by an unaided human being. The contraction in protection occurs as increasing numbers of new technologies are characterized as sense-enhancing devices—

73. *Dow Chem. Co. v. United States*, 476 U.S. 227, 238 (1986) (affirming the warrantless use of a commercial camera in part because "EPA was not employing some unique sensory device that, for example, could penetrate the walls of buildings and record conversations in Dow's plants, offices, or laboratories, but rather a conventional, albeit precise, commercial camera commonly used in mapmaking").

74. *Kyllo v. United States*, 533 U.S. 27, 34–35 (2001) (finding a search where the device used by police was highly intrusive in that it obtained information that could not theoretically have been obtained by a human being without physical intrusion).

75. As Justice Scalia has observed, the purpose of the Fourth Amendment "is to preserve that degree of respect for the privacy of persons and the inviolability of their property that existed when the provision was adopted—even if a later, less virtuous age should become accustomed to considering all sorts of intrusion 'reasonable.'" *Minnesota v. Dickerson*, 508 U.S. 366, 380 (1993) (Scalia, J., concurring); see also *Schmerber v. California*, 384 U.S. 757, 767 (1966) ("The overriding function of the Fourth Amendment is to protect personal privacy and dignity against unwarranted intrusion by the State.").

76. *E.g.*, PAUL BUTLER, LET'S GET FREE: A HIP HOP THEORY OF JUSTICE 35 (2009) ("The Bill of Rights intentionally makes it harder for the police to do their jobs."); Fred H. Cate, *Government Data Mining: The Need for a Legal Framework*, 43 HARV. C.R.-C.L. L. REV. 435, 451 (2008).

77. See Butler, *supra* note 76, at 88.

a label which typically ensures the most lenient constitutional treatment available.

As noted above, the intrusiveness inquiry invokes two parallel considerations: (1) the *type* of information that can be accessed by the government's enhanced surveillance method, and (2) the *amount* of information potentially disclosed by the surveillance device. On paper, an examination of intrusiveness suggests a balanced application of these two prongs. In practice, however, the Court has made the first leap and focused far more on the "type" portion of the inquiry. This imbalanced application of the intrusiveness inquiry mirrors, in many respects, the Court's imbalanced application of the *Katz* test. Nevertheless, while there are a number of good reasons for heavily favoring the objective inquiry of *Katz*'s two-part test, the same cannot be said for favoring intrusiveness's "type" analysis over its "amount of information potentially revealed" inquiry. Nonetheless, in case after case, the Court has given dominant consideration to the first prong—type of information revealed—and considered as an afterthought (if at all) the second inquiry—amount of information potentially revealed.

For example, in *Smith*, the Court began with a discussion of the type of information that was acquired by the government's pen register.⁷⁸ The Court found that the pen register should be treated differently than the listening device in *Katz*, primarily because the type of information acquired by the two devices was substantially different.⁷⁹ In contrast, beyond summarily describing the amount of information gathered by the pen register as "limited," the Court engaged in no real analysis of the quantity of information the device might collect.⁸⁰ As a result, constitutional treatment of the pen register was driven almost entirely by the Court's determination that it gathered the same type of informa-

78. *Smith v. Maryland*, 442 U.S. 735, 741 (1979) ("These devices do not hear sound. They disclose only telephone numbers that have been dialed . . .") (quoting *United States v. N.Y. Tel. Co.*, 431 U.S. 159, 167 (1977)).

79. *Id.* ("Yet a pen register differs significantly from the listening device employed in *Katz*, for pen registers do not acquire the *contents* of communications.")

80. *Id.* at 742 ("Given a pen register's limited capabilities, therefore, petitioner's argument that its installation and use constituted a 'search' necessarily rests upon a claim that he had a 'legitimate expectation of privacy' regarding the numbers he dialed on his phone.")

tion available to telephone operators in the days when calls were connected by human intermediaries.⁸¹

Similarly, in *United States v. White*, the Court's ultimate determination that no Fourth Amendment search occurred was guided largely by its first-order observation that the type of information obtained by the challenged radio transmitter was not significantly different from the notes a government agent might take.⁸² As in *Smith*, after determining the type of information revealed, the Court failed to conduct any serious analysis of the amount of information potentially uncovered before reaching a decision about appropriate constitutional treatment.⁸³ Because the Court saw little difference between the type of information obtainable by the agent acting alone and the type of information obtained by the transmitter, the Court refused to impose constitutional limits.⁸⁴

The ascendancy of the first prong of the intrusiveness inquiry is problematic for several reasons. First, intrusions upon our privacy are occasioned as much by the amount of information others learn about us as by the type of information disclosed. For example, most adults engaged in a single intimate relationship would likely not object strenuously to the public disclosure of the name of their current partner. Presumably though, that same group of adults would look much less dismissively upon the release of a comprehensive list of their sexual partners. The type of informa-

81. *Id.* at 744-45 ("Petitioner concedes that if he had placed his calls through an operator, he could claim no legitimate expectation of privacy. We are not inclined to hold that a different constitutional result is required because the telephone company has decided to automate." (citation omitted)).

82. *United States v. White*, 401 U.S. 745, 751 (1971). For constitutional purposes, no different result is required if the agent, instead of immediately reporting and transcribing his conversations with defendant, either (1) simultaneously records them with electronic equipment which he is carrying on his person or (2) carries radio equipment which simultaneously transmits the conversations either to recording equipment located elsewhere or to other agents monitoring the transmitting frequency. *Id.* (citing *Lopez v. United States*, 373 U.S. 427 (1963); *On Lee v. United States*, 343 U.S. 747 (1952)).

83. Apart from the singular observation that the amount of information obtained by the transmitter provided "a more accurate version of the events in question," the Court made no further mention of the amount of information that could have been uncovered by use of the radio transmitter. *Id.* at 753.

84. *Id.* at 751 ("If the conduct and revelations of an agent operating without electronic equipment do not invade the defendant's constitutionally justifiable expectations of privacy, neither does a simultaneous recording of the same conversations made by the agent or by others from transmissions received from the agent to whom the defendant is talking . . .").

tion revealed in the second scenario is no different than that revealed in the first, but because the quantity of information disclosed has changed, the intrusion is amplified. By elevating consideration of the first prong, the Court ignores the significant intrusion upon privacy that can be occasioned when large quantities of even a single type of seemingly innocuous information are disclosed.

A secondary outgrowth of the ascendance of the first prong of the intrusiveness inquiry is that the Court, despite eschewing a bright-line-rules model of Fourth Amendment jurisprudence in *Katz*,⁸⁵ is gradually returning to more formalistic assessments. The Court's focus on the type of information revealed creates categories of devices that can be characterized as either sense-augmenting or extrasensory. The label the Court places on a device largely dictates its subsequent constitutional treatment. So, for example, the Court has tended to treat devices it considers sense-augmenting as presumptively constitutional.⁸⁶ In contrast, the Court views extrasensory devices as more intrusive.⁸⁷ Accordingly, the Court has permitted the warrantless use of such devices only where the amount of information revealed is tightly circumscribed.⁸⁸

Categorization is not entirely bad, and indeed there is much good to be said about it.⁸⁹ Though the Court has rejected an en-

85. Gruber, *supra* note 28, at 828 ("Reasonableness is the mechanism through which the Fourth Amendment can be a fluid protector of rights, rather than an outmoded relic tethered to no-longer-sufficient categories.")

86. Ramya Shah, *From Beepers to GPS: Can the Fourth Amendment Keep Up with Electronic Tracking Technology?*, 2009 U. ILL. J.L. TECH. & POL'Y 281, 288–89 (2009).

87. See, e.g., *United States v. Place*, 462 U.S. 696, 719–20 (1983) (Brennan, J., concurring) (observing that dog sniffs "represent[] a greater intrusion into an individual's privacy" because they add "a new and previously unobtainable dimension to human perception").

88. The Court has considered three "devices" it deems extrasensory: the thermal imager in *United States v. Kyllo*, 533 U.S. 27, 29 (2001), the dog sniffs in *Illinois v. Caballes*, 543 U.S. 405, 406 (2005), and *Place*, 462 U.S. at 699, and the chemical drug test in *United States v. Jacobsen*, 466 U.S. 109, 111 (1984). It rejected the use of the thermal imager because the information it could obtain was not tightly circumscribed. *Kyllo*, 533 U.S. at 34–36, 38–39. In contrast, the Court permitted the dog sniffs and chemical field tests at issue in *Place*, 462 U.S. at 707, *Caballes*, 543 U.S. at 409, and *Jacobsen*, 466 U.S. at 123–24, because they could reveal only the presence or absence of narcotics but nothing more.

89. Though some scholars have advocated just such a "fix," see, for example, Morgan Cloud, *Pragmatism, Positivism, and Principles in Fourth Amendment Theory*, 41 UCLA L. REV. 199, 301–02 (1993) (urging a rules-based approach to Fourth Amendment protections), I do not mean to suggest a return to the days when Fourth Amendment law was strictly a matter of rigid adherence to the literal categories.

tirely rules-based model of search jurisprudence, some categorization provides helpful guides for quickly determining which devices are permissible and which are not. In addition, when a clear test is used, categorization can enhance predictability by permitting a single case to govern the constitutional treatment of every device (present and future) that falls within the ambit of the category created. However, on the downside, when the test that produces categorization is too malleable, categorization can result in a jurisprudence that does not adequately protect. This is precisely what has happened in the case of the Fourth Amendment—it is what I describe as the Court's second leap.

In conducting this "type" inquiry, the Court has focused on whether information could *theoretically* be obtained by one of the human senses. By focusing the inquiry as it has, the Court has created a highly pliable standard that allows virtually everything to be pushed into the permissive sense-augmenting category. For example, in *Smith*, prior to refusing warrant protection, the Court minimized the intrusiveness of the challenged pen register by describing it as merely the modern day equivalent of a switchboard operator.⁹⁰ Similarly, in *Kyllo*, arguing that a warrant should not be required, the dissent went to great lengths to describe the thermal imager at issue in that case as a device that only mimicked human perception.⁹¹ In dissent, Justice Stevens commented that "the ordinary use of the senses might enable a neighbor or passerby to notice the heat emanating from a building, particularly if it is vented, as was the case here."⁹² Indeed, if a judge is sufficiently imaginative, virtually any information disclosed in a surveillance-enhanced search could theoretically be obtained by human surveillance. Consequently, the theoretical human attainment standard is too easily manipulated.

Certainly, I am not the first to notice the shortcomings of the Court's Fourth Amendment jurisprudence. To address concerns with the existing search jurisprudence, learned commentators suggest a variety of new tests that they argue produce better outcomes faithful to the purposes of the amendment. One such fix advances legislative action in place of constitutional protection.⁹³

90. *Smith v. Maryland*, 442 U.S. 735, 744 (1979).

91. *Kyllo*, 533 U.S. at 43 (Stevens, J., dissenting).

92. *Id.*

93. As noted by a number of scholars, privacy can also be protected through the draft-

Another suggests completely discarding the warrant requirement.⁹⁴ Others propose we move to an exposure-based approach for defining searches.⁹⁵ Some scholars even commend that we collapse the Fourth Amendment's protection into notions of property rights,⁹⁶ while others submit the existence of a search should be judged by the purpose of the official intrusion.⁹⁷ Finally, as many

ing and enactment of appropriate legislation. See, e.g., Kerr, *supra* note 22, at 839–57.

94. See, e.g., Akhil Reed Amar, *Fourth Amendment First Principles*, 107 HARV. L. REV. 757, 800 (1994).

95. Professor Kerr suggests an exposure-based approach to defining searches. Specifically, Professor Kerr proposes that the government's exploration of a suspect's computer hard drive should be defined as a search only at the moment when "information from or about the data is exposed to possible human observation." Orin S. Kerr, *Searches and Seizures in a Digital World*, 119 HARV. L. REV. 531, 551 (2005). Though a thorough critique of Professor Kerr's proposal is beyond the scope of this footnote, I make one brief observation. Contrary to Professor Kerr's suggestion, his exposure-based approach cannot be justified under the Court's decisions in *Karo* and *Kyllo*. Professor Kerr opines that his approach is supported by the Supreme Court's decision in *Karo* because, in his view, that case advances the notion that constitutional lines are crossed only when the police retrieve useful (or at least intelligible) information. *Id.* at 553 (citing *United States v. Karo*, 468 U.S. 705, 712 (1984)). But this is not the law. The Fourth Amendment is implicated as much when the police officer first reaches into my handbag as when she finally closes her hand around an unidentifiable object and pulls it out for closer observation. Indeed, the Court in *Kyllo* recognized as much when it found that the thermal imager used by officers in that case was objectionable not only because it actually revealed information about the interior of the home, but also because of its potential to reveal such information. *Kyllo*, 533 U.S. at 37 (rejecting the government's argument that the police conduct in that case was constitutional because it did not actually "detect private activities occurring in private areas"); see also *id.* at 38 (observing that the thermal imager used in that case was objectionable not only because of what it had revealed, but also because of what it "might disclose"); *id.* at 39 (observing that a rule which defined constitutional limits based on ex post examinations of the information actually revealed would be unworkable because "no police officer would be able to know *in advance*" what his enhanced surveillance would ultimately uncover). Put simply, it is the reaching, not just the retrieving, with which the Constitution is concerned.

96. *Cloud*, *supra* note 63, at 72–73; see also Steinberg, *supra* note 67, at 485 ("In short, the Fourth Amendment was intended only to regulate physical intrusions into houses and not other types of searches or seizures."). Confining the definition of a search to a physical intrusion into the home is ill-advised. Indeed, the Supreme Court determined almost fifty years ago that the reach of the Fourth Amendment extended beyond mere notions of physical trespass. *Katz v. United States*, 389 U.S. 347, 353 (1967).

97. Under this line of analysis, if the police invade a protected privacy interest "with the purpose of obtaining physical evidence or information," such conduct would be considered a search under the Fourth Amendment. Thomas K. Clancy, *What Is a "Search" Within the Meaning of the Fourth Amendment?*, 70 ALB. L. REV. 1, 3 (2006). However, there are significant difficulties with binding constitutional protection too tightly to the subjective intentions of the officer. First and foremost, subjective intentions can be difficult to accurately gauge. Indeed, adopting the purpose-based approach would seem an odd response to the waning subjective expectation prong of *Katz*. Moreover, in other contexts, the Court has signaled that an officer's subjective intent is irrelevant to an assessment of Fourth Amendment protection. See, e.g., *Whren v. United States*, 517 U.S. 807, 813, 814 (1996) ("Subjective intentions play no role in ordinary, probable-cause Fourth Amendment analysis. . . . [T]he Fourth Amendment's concern with 'reasonableness' allows certain ac-

scholars have noted, it may unnecessarily complicate things to define the common sense occurrence of a search by referencing personal desires (subjective expectations) and societal norms (objective reasonableness).⁹⁸ For such critics, a simple *common sense* definition of the term would be more appropriate.⁹⁹

A detailed critique of each of the proposals exceeds the scope of this essay. Accordingly, I note only that the usefulness of many of these critiques is limited by their shared precondition—the substantial rejection of existing doctrine. Consequently, whatever merit there may be in the proposals, their practical value is diminished by their stark improbability of actual adoption. Even with several new members, there is little chance the Court will significantly revamp the law of searches and seizures. For better or worse, the presumptive warrant requirement and the *Katz* test are, at least for the foreseeable future, here to stay. In light of that continued vitality, it seems improbable that the Court would, for example, retreat to *Olmstead*-like notions of the Fourth Amendment's application.¹⁰⁰ Similarly, adopting a dictionary-like definition for Fourth Amendment searches would require that a number of the Court's recently decided cases be overturned.¹⁰¹ My

tions to be taken in certain circumstances, *whatever* the subjective intent.”); *see also* *Horton v. California*, 496 U.S. 128, 138 (1990) (“[E]venhanded law enforcement is best achieved by the application of objective standards of conduct, rather than standards that depend upon the subjective state of mind of the officer.”).

98. *See generally* Amar, *supra* note 94.

99. *Id.* at 769.

These word games are unconvincing and unworthy. A search is a search, whether with Raybans or x-rays. The difference between these two searches is that one may be much more reasonable than another. In our initial hypothetical, the search is public—the agent is out in the open for all to see; non-discriminatory—everyone is scanned, not just, say, blacks; unintrusive—no x-ray glasses or binoculars here; consented to—when one ventures out in public, one does assume a certain risk of being seen; and justified—the President's life is on the line. But change these facts, and the outcome changes—not because a nonsearch suddenly becomes a search, but because a search at some point becomes *unreasonable*.

Id. (footnote omitted).

100. *See Olmstead v. United States*, 277 U.S. 438, 466 (1928) (holding that wire tapping did not constitute a search or seizure under the Fourth Amendment as it was not “an official search and seizure of his person [nor] such a seizure of his papers or material effects [nor] an actual physical invasion of his house ‘or curtilage’ for the purpose of making a seizure”), *overruled by Katz*, 389 U.S. 347, and *Berger v. New York*, 388 U.S. 41 (1967).

101. In *Caballes*, the Court reaffirmed that “the use of a well-trained narcotics-detection dog—one that ‘does not expose noncontraband items that otherwise would remain hidden from public view,’—during a lawful traffic stop generally does not implicate legitimate privacy interests.” 543 U.S. 405, 409 (2005) (quoting *United States v. Place*, 462 U.S. 696, 707 (1983)). However, there is little room to argue that a narcotics-detection

proposed method for defining a constitutionally significant search therefore works within the existing doctrine.

IV. ANTIDOTE: A NEW WAY OF THINKING ABOUT INTRUSIVENESS

As discussed in Part III above, in flushing out the intrusiveness inquiry applied to technologically enhanced searches, the Court has taken two analytical leaps that limit the reach of the Fourth Amendment. Those two leaps are the ascendancy of the “type” query (to the detriment of any significant consideration of the quantity query) and a dominant focus on whether information could theoretically be discovered by a human being (as opposed to consideration of whether the device employed obtained information in an unreasonable manner). I propose that these two leaps be undone to better guide the police and lower courts in assessing whether the Fourth Amendment will be implicated.

My modified intrusiveness inquiry involves balanced consideration of two factors—functionality and potential disclosure. The two questions asked are *how* and *what*. First, the court must examine how the device in question enabled or enhanced surveillance—“how does it work?” I call this the “functionality inquiry.” Next, the court must determine the extent of disclosure made possible by use of the device—“what can be discovered?” I call this the “potential disclosure inquiry.” The functionality and potential disclosure inquiries are then balanced to determine the relative intrusiveness of official conduct and, thereby, the appropriate constitutional treatment of challenged surveillance.

In contrast with the highly compliant human attainment query that is now engaged, the first factor of my proposed test would consider the actual functionality of a device.¹⁰² Such consideration

dog’s actions do not fall squarely within a common dictionary definition of a search. See MERRIAM WEBSTER’S COLLEGIATE DICTIONARY 1120 (11th ed. 2003) (defining the verb “search” to mean “to examine in seeking something”).

102. Professor Kerr has suggested that rules should be adopted that do not require judges to first become proficient in the technical functioning of particular surveillance equipment. Kerr, *supra* note 95, at 552 (advocating a test that focuses judicial scrutiny at the point of potential human exposure because “[i]t is far easier for humans to control and understand exposure than to control and understand the technical functioning of a computer”). Admittedly, it would be simpler to leave the mystery of how things work to the scientists and confessed gadget geeks of the world. But it is of negligible concern that understanding the precise functioning of surveillance equipment may at times be compli-

would be used to assess whether the device is most properly categorized as “sense-augmenting” or “extrasensory.” A sense-augmenting device is one that merely enhances one of the five basic human senses¹⁰³—sight,¹⁰⁴ hearing,¹⁰⁵ taste,¹⁰⁶ smell¹⁰⁷ or touch. In contrast, an extrasensory device is one that makes surveillance possible by exploiting a mode of perception not physiologically available to humans.¹⁰⁸ For example, binoculars are sense-augmenting because they merely magnify the existing human ability to detect electromagnetic waves in the visible range. Similarly, a flashlight is sense-augmenting because alone it perceives nothing; rather, it only improves the human ability to see by providing a source of visible light.¹⁰⁹ In contrast, a field test for co-

cated. When Fourth Amendment protections hang in the balance, it is not the least unreasonable to insist that the government present clear evidence of the technical functioning of its challenged devices. Indeed, under my proposed inquiry, a court need only determine at the outset whether the particular piece of equipment augments (or mimics) one of the five human senses or instead does something the human senses cannot. While this assessment does require some understanding of the precise method by which surveillance equipment works, it hardly requires judges to become technocrats.

103. The human senses are physiological methods of perception. LINDA S. COSTANZO, *PHYSIOLOGY* 69 (3d ed. 2006).

104. Sight describes the ability to detect electromagnetic waves in the visible range. LAURALEE SHERWOOD, *HUMAN PHYSIOLOGY: FROM CELLS TO SYSTEMS* 6–15 (7th ed. 2010).

105. Hearing describes the ability to perceive sound. RANDOM HOUSE UNABRIDGED DICTIONARY 882 (2d ed. 1993).

106. Taste is one of the two “chemical” human senses. SHERWOOD, *supra* note 103, at 227. It describes the ability to detect sweetness, saltiness, sourness, and bitterness. *Id.* at 229.

107. Smell is the second “chemical” human sense. *Id.* at 227. It describes the ability of chemoreceptors located high in the nasal cavity to detect thousands of odor molecules. *Id.* at 227, 230. Animals are both more sensitive to smaller concentrations of chemicals and have additional odor receptors that humans do not possess. *Id.* at 227. When a bloodhound is following a scent trail, it is simply detecting smaller concentrations of odor chemicals than a human would be able to. In other words, they are functioning not much differently than a “microphone” for smell. In contrast, when a drug dog alerts, some studies have found that the dog is identifying odor chemicals that cannot be detected by humans at any concentration. *See id.* at 227, 230.

108. Hutchins, *supra* note 20, at 433.

109. The conclusion that flashlights are sense-enhancing devices—and their use, therefore, presumptively a non-search—is consistent with the Supreme Court’s conclusion that constitutional bars present no obstacle to the official use of artificial light sources. *See Texas v. Brown*, 460 U.S. 730, 740 (1983) (finding that “use of artificial means to illuminate a darkened area simply does not constitute a search, and thus triggers no Fourth Amendment protection”). Nonetheless, a technical purist might plausibly contend that categorization of a flashlight as a sense-enhancing device is analytical deck-stacking, driven more by the desire to achieve a particular legal outcome than by an objective assessment of functionality. *Compare* *Kyllo v. United States*, 533 U.S. 27, 40 (2001), *with id.* at 41 (Stevens, J., dissenting) (reflecting that disagreement regarding desired outcomes often goes hand in hand with disagreement regarding functionality). Indeed, it is not implausible to suggest that flashlights should be categorized no differently than the fabled (and

caine would be extrasensory because it uses chemical reactions to accurately detect the presence of cocaine, something even the human senses of taste and smell cannot do.¹¹⁰ A dog sniff for narcotics would be similarly categorized.¹¹¹

The consequence of categorization during the first step of my proposed analysis is a positive or negative presumption with regard to application of the Fourth Amendment. Put more simply, the Supreme Court has historically treated use of a sense-enhancing device as a non-search that triggers no additional constitutional concerns beyond those triggered by unaided police conduct.¹¹² Conversely, the Court has implied that the use of non-binary extrasensory devices should be deemed a search and thus within the scope of Fourth Amendment protection.¹¹³ As the Court has at times recognized, though, an inflexible assignment of constitutional treatment based simply on a device's functionality can result in unduly formalistic results. Consequently, under my proposed inquiry, rather than giving near-conclusive weight to the assigned category, the initial determination of constitutional treatment is only a preliminary judgment. After determining how the device works, the next question to be answered is "what can be discovered by use of this device?"

When considering the potential disclosure factor, a court would examine the extent of information potentially revealed by the surveillance device. Based upon what the court finds at this stage, it can either reject the preliminary assessment of constitutional treatment as unsuitable, or confirm it as appropriate. For example, the presumption that law enforcement's use of an extra-

indisputably extrasensory) x-ray goggles for the human body, which is no better able to generate visible light than to see through clothing and walls. However, if the proposed functionality inquiry is properly understood to evaluate the mode of *perception* enabled by use of the device, a flashlight is best classified as sense-enhancing for it improves, without substantively altering, our ability to detect electromagnetic waves in the visible range.

110. Cobalt thiocyanate is widely used to test for cocaine. Anna L. Deakin, *A Study of Acids Used for the Acidified Cobalt Thiocyanate Test for Cocaine Base*, MICROGRAM J., Jan.-June 2003, http://www.usdoj.gov/dea/programs/forensicsci/microgram/journal_v1/mjournal_v1_pg6a.html. When added to water soluble cocaine, it reacts by turning blue. See *id.*

111. See *United States v. Place*, 462 U.S. 696, 719 (1983) (Brennan, J., concurring) (observing that dog sniffs add "a new and previously unobtainable dimension to human perception").

112. See *Amsterdam*, *supra* note 22, at 381 (noting the historic observation "that the eye or ear could not commit a search").

113. *Place*, 462 U.S. at 707 (holding that a dog sniff only "discloses the presence or absence of narcotics" and thus "did not constitute a 'search'").

sensory device deserves Fourth Amendment oversight might be rejected as unjustified in a particular case if the court determines during the potential disclosure inquiry that only a tightly circumscribed quantity of information can be revealed by the device in question.¹¹⁴ The opposite is also true: if a great deal of information can be uncovered by official use of a sense-enhancing device, the original *non-search* presumption might be rejected in favor of constitutional protection. At bottom, the potential disclosure analysis is about considering “how much information is too much?” in the case of sense-enhancing devices, and is about asking “is the potential disclosure restricted enough?” in the case of extrasensory surveillance tools.

Though the Supreme Court has never identified the precise quantity of information necessary to override a preliminary presumption regarding constitutional treatment, it has given some indication of what is sufficient. For example, though a field test for drugs is an extrasensory implement, it is treated by the Court as a non-search because it can determine only the presence or absence of a controlled substance.¹¹⁵ Indeed, such “binary search[es],” as some scholars have dubbed them,¹¹⁶ are the only type of extrasensory surveillance that the Court has ever approved for warrantless use. By way of comparison, use of the sense-enhancing microphone in *Katz* was treated as a search because of the vast quantity of information potentially revealed by the device.¹¹⁷ A hypothetical will help clarify how my proposed intrusiveness inquiry would operate in practice.

Assume Officer Eager is walking his assigned beat in a neighborhood known for its frequent street-level drug sales. At the corner of Chance and Prospect Streets, Eager sees a legally parked SUV. He can see the heads of two people sitting in the vehicle through the clear front windshield. But, the height of the vehicle and tinting on its side windows prevent a clear view into the truck’s interior. There is nothing about the appearance of the vehicle that raises Officer Eager’s suspicion. Nonetheless, he determines that if he uses his binoculars while standing on steps

114. *Cf. Illinois v. Caballes*, 543 U.S. 405, 410 (2005); *Place*, 462 U.S. at 707.

115. *United States v. Jacobsen*, 466 U.S. 109, 123 (1984).

116. See David A. Harris, *Superman’s X-Ray Vision and the Fourth Amendment: The New Gun Detection Technology*, 69 TEMP. L. REV. 1, 36 & n.213 (1996) (quoting *United States v. Colyer*, 878 F.2d 469, 474 (D.C. Cir. 1989), as the first instance of the term).

117. See *Katz v. United States*, 389 U.S. 347, 352 (1967).

across the street from the SUV, he can see into the vehicle through a worn area in the tinting on the passenger window. Eager makes out Dealer handing Buyer a small baggie containing white powder. Eager sees Buyer hand Dealer what looks like money. Eager radios for backup, and when Buyer exits the vehicle minutes later, he is arrested. A baggie of white powder is retrieved from his pants pocket. Dealer is also arrested. On the floor in front of his seat, the officers find thirty-five baggies of white powder identical to the one seized from Buyer. They also search Dealer's person and find \$480 in cash. If Dealer is charged and moves to suppress the evidence at trial, there is little question that Eager's binocular-enhanced observation from a lawful vantage point on a public street would be deemed a lawful non-search under current Supreme Court doctrine.¹¹⁸ A similar result would also be produced under the proposed intrusiveness framework.

Recall, under the intrusiveness inquiry a court asks two questions: "how does it work?" and "what can be discovered?" With regard to the first query, the burden is on the government to produce responsive evidence. Presumably, with regard to the hypothetical, the evidence produced would explain that Officer Eager's binoculars relied upon his existing ability to detect electromagnetic waves in the visible range and then magnified the images he detected. Because Officer Eager's binoculars merely enhanced a mode of perception already physiologically available to humans—the sense of sight—the court should classify the binoculars as a sense-enhancing surveillance implement. This classification would trigger a preliminary presumption that use of the device should be deemed a non-search not subject to the strictures of the Fourth Amendment.

After determining that binoculars are a sense-enhancing device—the use of which presumptively is not restricted by the Constitution—the court would next consider the extent of potential disclosure to verify that constitutional oversight was unnecessary. Specifically, the reviewing court would ask, "what could Officer Eager have learned through use of his binoculars?" If the amount

118. See *United States v. Lee*, 274 U.S. 559, 563 (1927) ("[U]se of a searchlight is comparable to the use of a marine glass or a field glass. It is not prohibited by the Constitution."); see also *Texas v. Brown*, 460 U.S. 730, 740 (1983) ("There is no legitimate expectation of privacy, shielding that portion of the interior of an automobile which may be viewed from outside the vehicle by either inquisitive passersby or diligent police officers." (citations omitted)).

of information potentially disclosed is significant, this finding may justify rejecting the initial non-search presumption. On the other hand, if the degree of information potentially disclosed is insignificant, this will validate the preliminary conclusion that constitutional oversight is unnecessary.

In some sense, the extent of potential disclosure in the hypothetical can be characterized as substantial. Though Officer Eager's binoculars can reveal no more than Eager might have discovered had he held his bare eye to the untinted portion of the SUV's window, it would not be unreasonable for one to press the contention that a great deal might nonetheless have been learned. Eager might have discovered any number of particulars by peeking into the car, including the owner and his paramour *in flagrante delicto* in the presumed seclusion of the rear seat. However, when assessing the magnitude of potential disclosure, subjective notions should not be the measure guiding the analysis. To improve the current state of Fourth Amendment law, the intrusiveness inquiry must not only "limit[] the risk of intrusion on legitimate privacy interests," it must also be a workable, reasonable, and objective standard of constitutional protection.¹¹⁹ To that end, guidance must be taken from the existing case law. In the instant case, characterizing the potential disclosure as substantial is inconsistent with such guidance.¹²⁰

The question is whether the potential disclosure is so significant as to justify rejecting the presumptive treatment of sense-enhancing devices. Traditionally, the Supreme Court has treated visual observation as insignificant, provided the officer occupies a lawful vantage point at the time of observation.¹²¹ Consequently,

119. See *Illinois v. Andreas*, 463 U.S. 765, 773 (1983). As the Supreme Court noted in *Andreas*, when defining standards for searches one "must be mindful of three Fourth Amendment principles. First, the standard should be workable for application by rank-and-file, trained police officers. Second, it should be reasonable Third, the standard should be objective, not dependent on the belief of individual police officers." *Id.* at 772-73 (citations omitted); see also Steinberg, *supra* note 67, at 474 (bemoaning the unpredictability of the Supreme Court's Fourth Amendment doctrine).

120. As at least one scholar has complained, the Court's tendency to treat visual surveillance somewhat more permissively than aural surveillance is problematic. See Steinberg, *supra* note 67, at 469 ("The Court is far more likely to require a warrant when technology enhances aural impressions, rather than visual impressions."). Steinberg is correct—in many cases what one can see reveals as much, if not more than, what one can hear. However, for purposes of this essay, I assume the continued existence of the distinction the Court has drawn.

121. I refer here only to the viewing of items that are visible to the public, and distinguish this from the "plain view" doctrine that has been carved out as an exception to the warrant requirement to justify seizures. In the case of "observation of an object in plain

where the mode of perception in the hypothetical is limited to visual observation, the potential scope of disclosure does not justify overriding the initial presumption that Officer Eager's binocular-enhanced observations were a non-search. In sum, because the binoculars rely upon a mode of perception that is already available to humans, and because the information that can be uncovered through the use of binoculars is limited to visual observations, their use by law enforcement is not restricted by the Fourth Amendment any more than an officer's naked eye observations would be.

But there would be little need for proposing a new test, if all it did was regurgitate results that can be squared with existing cases.¹²² Instead, the benefit of my proposed modification to the intrusiveness inquiry is that it also allows for a more nuanced resolution of inventive fact patterns. For example, assume that instead of using a pair of binoculars, Officer Eager used a scanning device with imaging capabilities that allowed it to scan the interior of Dealer's car. Under existing case law, it is not entirely

sight," the Court has traditionally found that such viewing "generally involves no Fourth Amendment search." *Brown*, 460 U.S. at 738 n.4; see also *Minnesota v. Dickerson*, 508 U.S. 366, 375 (1993) ("[I]f contraband is left in open view and is observed by a police officer from a lawful vantage point, there has been no invasion of a legitimate expectation of privacy and thus no 'search' within the meaning of the Fourth Amendment . . ."). The distinction between the "plain view" exception to the warrant requirement and the observation of items in plain sight was also acknowledged by the Court in *Horton v. California*, 496 U.S. 128, 133 (1990). There the Court noted,

[t]he "plain-view" doctrine is often considered an exception to the general rule that warrantless searches are presumptively unreasonable, but this characterization overlooks the important difference between searches and seizures. If an article is already in plain view, neither its observation nor its seizure would involve any invasion of privacy.

Id. The somewhat permissive treatment of visible items has also been noted by scholars. See Steinberg, *supra* note 67, at 469 ("The Court is far more likely to require a warrant when technology enhances aural impressions, rather than visual impressions.").

122. There are a handful of existing cases that would not survive under my proposed modifications to the intrusiveness inquiry. For example, the warrantless use of the pen register at issue in *Smith v. Maryland* would have to be rejected. 442 U.S. 735, 736 (1970). Considering the actual functionality of the device, the pen register, which "decode[s] outgoing telephone numbers by responding to changes in electrical voltage caused by the turning of the telephone dial (or the pressing of buttons on pushbutton telephones)," *United States v. N.Y. Tel. Co.*, 434 U.S. 159, 167 (1977), would be categorized as extrasensory. Turning to the potential for disclosure, the presumptive need for a warrant that attached following the functionality inquiry could not be overcome by binary search results. Admittedly, to the extent the results in that case are viewed as justified by the third-party exposure doctrine, the inquiry I propose would not affect them, but would push that rationale more squarely to the center of the analysis.

clear which way the Court would rule.¹²³ However, under the modified intrusiveness inquiry the outcome is clear.

At the first step of the intrusiveness analysis, the Court might find that the scanner emitted ultra-wide-band radar waves that traveled through the exterior of the car to detect objects and movement in the interior.¹²⁴ Clearly this is not something that any one of the five human senses is capable of doing. Therefore, the device would be categorized as an extrasensory device, triggering an initial presumption that its use should be deemed a search (and therefore subject to the strictures of the warrant requirement). In the case of extrasensory devices, the Court has only exempted them from the reach of the Fourth Amendment when they provide binary results. The information disclosed by Officer Eager's scanner, though analogous to the visual observations enabled by the binoculars, would not be sufficiently restricted to justify rejecting the presumptive treatment of extrasensory devices. In other words, placing the modified intrusiveness inquiry at the heart of the Fourth Amendment inquiry concerning enhanced searches would impart greater structure to judicial consideration of novel technologies, and will hopefully allow courts to issue more uniform guidance when confronted with cutting-edge surveillance enhancements.

V. CONCLUSION

The Fourth Amendment can be a powerful ally in the fight to protect privacy. However, when it comes to technologically enhanced searches, the Court has engaged in two analytical leaps that undermine our privacy protections. By refusing to repeat these leaps in future cases, and by recalibrating the intrusiveness analysis to consider the actual functionality of surveillance devices, we can encourage a more vigorous protection of privacy interests while also remaining somewhat faithful to the course already charted by the Court.

123. Compare *Kyllo v. United States*, 533 U.S. 27, 40 (2001) (focusing on whether or not there was a physical intrusion to privacy), *with id.* at 41 (Stevens, J., dissenting) (focusing on inferences drawn from information ascertained through new technologies).

124. See, e.g., Kelly Hearn, *High Tech Cop Tools See Through Walls*, UNITED PRESS INT'L, Apr. 18, 2001, available at <http://www.commondreams.org/cgi-bin/print.cgi?file=/headlines01/0418-04.htm>; Time Domain Corporation, *Time Domain Receives Fundamental Patent for Sense-Through-The Wall Radar Technologies*, Apr. 24, 2006, <http://www.timedomain.com/news/wall.php>.