

PRIVACY IN AN AGE OF ADVANCING TECHNOLOGY

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Technological advances have transformed society in ways that our ancestors could not have anticipated. At one point in history, mass communication was dominated and controlled by large media corporations that could afford to purchase and operate printing presses or radio and television stations.¹ Today, with the development of personal computers, handheld devices, and the Internet, ordinary people have the ability to engage in mass communication.² Internet-based devices like listservs, blogs, Facebook, MySpace, Twitter, and other communication technologies now allow ordinary people to send information worldwide.³

Technological developments have also reshaped police surveillance techniques. When the United States was formed, and the *Bill of Rights* was adopted, the police had more limited search technologies available to them. Governmental agents could eavesdrop on conversations in taverns or other public settings, or outside the windows of homes, and they could physically search both people and places. Today, by contrast, surveillance

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¹ See Russell L. Weaver, *From Gutenberg to the Internet: Free Speech, Advancing Technology and the Implications for Democracy* (Carolina Academic Press 2012).

² See *id.*

³ See *id.*

technologies have gone high tech.⁴ As one commentator noted, “[R]apid technological advances and the consequent recognition of the ‘frightening paraphernalia which the vaunted marvels of an electronic age may visit upon human society’ have underlined the possibility of worse horrors yet to come.”⁵ The police can use microphones to listen to conversations in distant locations⁶ or to hear through walls,⁷ and they can use forward-looking infrared (FLIR) to determine the level of heat emanating from houses,⁸ closed circuit television systems to continuously watch public places,⁹ global positioning systems (GPS) to continuously monitor the location of individuals and things,¹⁰ monitoring devices to overhear cell and cordless telephone conversations,¹¹ and x-ray technology used with drive-by x-ray vans to peer through walls and into the privacy of homes.¹² Moreover, the police can also use technology to monitor computer key strokes and Internet usage¹³ and can invade an individual’s computer using spyware technology.¹⁴ The police can even use remotely-controlled drones to fly over cities and monitor the activities of people.¹⁵

⁴ See George Orwell, 1984 (1949).

⁵ Anthony G. Amsterdam, *Perspectives on the Fourth Amendment*, 58 MINN. L. REV. 349, 386 (1974) (quoting *Silverman v. United States*, 365 U.S. 505, 509 (1961)).

⁶ See *Katz v. United States*, 389 U.S. 347, 348 (1967).

⁷ See *Goldman v. United States*, 316 U.S. 129, 131 (1942).

⁸ See *Kyllo v. United States*, 533 U.S. 27 (2001).

⁹ See Dina Temple-Raston & Robert Smith, *U.S. Eyes U.K.’s Surveillance Cameras*, NAT’L PUBLIC RADIO (July 8, 2007, 8:00 AM), <http://www.npr.org/templates/story/story.php?storyId=11813693>.

¹⁰ See *Devega v. State*, 689 S.E.2d 293, 299 (2010).

¹¹ See, e.g., *City of Ontario v. Quon*, 130 S. Ct. 2619, 2625 (2010); *People v. Ledesma*, 795 N.E.2d 253, 260 (2003); Kimberly R. Thompson, *Cell Phone Snooping: Why Electronic Eavesdropping Goes Unpunished*, 35 AM. CRIM. L. REV. 137, 143-44 (1997).

¹² See Andy Greenberg, *Scanner Vans Allow Drive-By Snooping*, FORBES.COM (Sept. 9, 2010), http://www.forbes.com/forbes/2010/0927/technology-x-rays-homeland-security-aclu-drive-by-snooping.html?feed=rss_technology; see also Rania M. Basha, *Kyllo v. United States: The Fourth Amendment Triumphs Over Technology*, 41 BRANDEIS L.J. 939 (2003).

¹³ See *Spy Software and Key Loggers*, USA SPY SHOP, <http://www.usaspyshop.com/spy-software-c-55.html> (last visited Feb. 26, 2013).

¹⁴ See Alan F. Blakley et al., *Coddling Spies: Why the Law Doesn’t Adequately Address Computer Spyware*, 4 DUKE L. & TECH. REV. 1 (2005), available at <http://scholarship.law.duke.edu/dltr/vol4/iss1/24/>; Jason Broberg, *From Calea to Carnivore: How Uncle Sam Conscripted Private Industry in Order to Wiretap Digital Telecommunications*, 77 N.D. L. REV. 795 (2001); Jayni Foley, *Are Google Searches*

Advances in surveillance technology have made it much more difficult for individuals to protect their privacy against governmental intrusions. In the criminal context, the Fourth Amendment to the United States Constitution has always served as citizens' primary protection against police surveillance and intrusions.¹⁶ While the Fourth Amendment has been interpreted to provide citizens with some protection against modern technologies,¹⁷ early United States Supreme Court decisions were virtually unresponsive (except in the dissents) to the problems presented by new technologies.¹⁸ In its landmark decision *Katz v. United States*,¹⁹ the Court shifted the debate and attempted to come to grips with technology. *Katz* seemed revolutionary in the sense that it broke from precedent and established a new approach for dealing with technological issues.²⁰ As a result, the *Katz* decision has been recognized as a "seminal" decision²¹ and offered substantial hope to those who were concerned regarding the advance of technology and the potential implications for privacy. However, *Katz* has not lived up to its promise for a variety of reasons, including the fact that the *Katz* test has been

Private? An Originalist Interpretation of the Fourth Amendment in Online Communication Cases, 22 BERKELEY TECH. L.J. 447, 450 (2007).

¹⁵ See John Villasenor, *Drones Over America: What They Can See?*, NAT'L PUBLIC RADIO (Mar. 12, 2012), <http://www.npr.org/2012/03/12/148293470/drones-over-america-what-can-they-see>.

¹⁶ U.S. CONST. amend. IV.

¹⁷ See *Kyllo v. United States*, 533 U.S. 27, 34 (2001) (holding that police may not use technology to ascertain the amount of heat emanating from a house in order to determine whether the occupant was using special lights to grow marijuana in the attic, without a warrant); *Katz v. United States*, 389 U.S. 347, 359 (1967) (holding that police committed a "search" when they attached a listening device to the outside of a phone booth in order to overhear and record the contents of Katz's telephone conversation).

¹⁸ See, e.g., *Goldman v. United States*, 316 U.S. 129 (1942); *Olmstead v. United States*, 277 U.S. 438 (1928); *Ex Parte Jackson*, 96 U.S. 727 (1877).

¹⁹ 389 U.S. 347 (1967).

²⁰ See Timothy Casey, *Electronic Surveillance and the Right to Be Secure*, 41 U.C. DAVIS L. REV. 977, 987-89 (2008).

²¹ See Amsterdam, *supra* note 5, at 383 ("[*Katz*] is, of course, now generally recognized as seminal and has rapidly become the basis of a new formula of Fourth Amendment coverage.").

narrowly construed and has not easily adapted to new technologies.²²

This short Article does several things. First, it suggests that *Katz* has not provided an adequate response to advances in surveillance technology. Second, it examines why the Court's later decisions, which adopt a slightly different test, have proven ineffective in dealing with such issues. Finally, it suggests that the Court's recent decision in *United States v. Jones*²³ really does offer a ray of hope for a solution to the problem of advancing technology.

I. EARLY FOURTH AMENDMENT TECHNOLOGY JURISPRUDENCE

In demanding protections against “unreasonable searches and seizures” following the American Revolution, which ultimately materialized in the Fourth Amendment to the United States Constitution,²⁴ the new Americans were motivated by British abuses during the colonial period. British authorities used writs of assistance that allowed them to simply specify the object of a search in order to obtain a warrant that allowed them to search any place where the goods might be found,²⁵ without limit as to place or duration.²⁶ British officials also used “general warrants” that required them only to specify an offense; the executing officials then had the discretion to decide which persons should be arrested and which places should be searched.²⁷ These British practices stirred up such a high level of anger among the colonists that it rapidly became clear that the proposed

²² See generally Timothy Casey, *Electronic Surveillance and the Right To Be Secure*, 41 U.C. DAVIS L. REV. 977 (2008).

²³ 132 S. Ct. 945 (2012).

²⁴ U.S. CONST. amend. IV (“The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.”).

²⁵ See *Virginia v. Moore*, 553 U.S. 164, 168-69 (2008); *Samson v. California*, 547 U.S. 843, 858 (2006); *Atwater v. City of Lago Vista*, 532 U.S. 318, 339-40 (2001); see also RUSSELL L. WEAVER ET AL., *PRINCIPLES OF CRIMINAL PROCEDURE* 64 (3d ed. 2008).

²⁶ See *Steagald v. United States*, 451 U.S. 204, 221 (1981); *Gilbert v. California*, 388 U.S. 263, 286 (1967).

²⁷ See *Moore*, 553 U.S. at 168-69; *Steagald*, 451 U.S. at 220; *Payton v. New York*, 445 U.S. 573 (1980).

constitution would not be ratified without the inclusion of various rights, particularly protections against governmental searches and seizures.²⁸ These protections were ultimately embodied in the Fourth Amendment to the United States Constitution, which protects citizens against unreasonable searches and seizures and prohibits the issuance of warrants unless based on probable cause; also, it requires a particular description of the places to be searched and the things to be seized.²⁹ The new Americans hoped that these protections would curb the worst abuses stemming from the colonial writs and warrants.

When the Fourth Amendment was ratified, surveillance technology was comparatively crude and simplistic. Prior to its ratification, the new Americans had been subjected primarily to actual physical searches of their homes and persons by British officials.³⁰ The United States Supreme Court's definition of "search" tended to track this historical approach by defining the term with reference to people or places.³¹ Under these early decisions, the Court would conclude that a search had been committed if an individual was physically searched,³² or if the police intruded or trespassed into a "constitutionally protected area."³³ Thus, when the police broke into someone's house and rummaged through its contents, the Court would hold that the police had conducted a Fourth Amendment "search."³⁴ Likewise, when the police searched the interior of an automobile (once automobiles existed), or they rummaged through an individual's briefcase, the courts would find that the police had conducted a search.³⁵

In the early part of the twentieth century, as technology began to advance, the Court continued to focus on whether the

²⁸ See *Maryland v. Garrison*, 480 U.S. 79, 91 (1987); *Boyd v. United States*, 116 U.S. 616, 625 (1886).

²⁹ U.S. CONST. amend. IV.

³⁰ See *Draper v. United States*, 358 U.S. 307, 318 (1959); see also *Garrison*, 480 U.S. at 91.

³¹ See, e.g., *Carroll v. United States*, 267 U.S. 132 (1925); *Hester v. United States*, 265 U.S. 57 (1924).

³² See *Draper*, 358 U.S. 307.

³³ See, e.g., *Goldman v. United States*, 316 U.S. 129 (1942); *Olmstead v. United States*, 277 U.S. 438 (1928); *Ex Parte Jackson*, 96 U.S. 727 (1877).

³⁴ See *Silverman v. United States*, 365 U.S. 505, 511-12 (1961).

³⁵ See, e.g., *Carroll*, 267 U.S. 132.

police had made an actual physical search of a person or a constitutionally protected area. For example, in *Olmstead v. United States*,³⁶ the police attached small wires to ordinary telephone wires located outside of the residences of four suspects, as well as to a telephone line leading from their primary office, but did not trespass on or enter any of the properties. The Court held that the police had not conducted a “search” within the meaning of the Fourth Amendment because they had not intruded on “the person, the house, . . . papers, or . . . effects,” and had not committed a “trespass” or intruded into a “constitutionally protected area.”³⁷ Likewise, in *Goldman v. United States*,³⁸ the police accessed the office next to the defendant’s office and used a detectaphone—a listening device that could be attached to the wall—to collect sound waves, allowing them to overhear conversations that took place on the other side of the wall.³⁹ The Court held that since there was no trespass into the adjoining office, the Fourth Amendment was inapplicable.⁴⁰

In both *Olmstead* and *Goldman*, a few Justices expressed concern regarding the privacy implications of technological advances. For example, in *Olmstead*, Justice Brandeis noted that the “progress of science” is “not likely to stop with wire tapping,” and he expressed reservations regarding the implications of advancing technology for personal freedom.⁴¹ Because of his concerns, Justice Brandeis tried to shift the Court’s focus from constitutionally protected places to considerations of personal privacy.⁴² Justice Holmes also dissented in *Olmstead*, arguing that the Court “has always construed the Constitution in the light of the principles upon which it was founded,”⁴³ and that “the Fourth Amendment safeguards against all evils that are like and equivalent to those embraced within the ordinary meaning of its

³⁶ 277 U.S. 438 (1928).

³⁷ *Id.* at 464-65 (“The intervening wires are not part of his house or office, any more than are the highways along which they are stretched.”).

³⁸ 316 U.S. 129 (1942).

³⁹ *Id.* at 131-32.

⁴⁰ *Id.* at 135.

⁴¹ *See Olmstead*, 277 U.S. at 474.

⁴² *Id.* at 474-76 (Brandeis, J., dissenting).

⁴³ *Id.* at 487-88.

words.”⁴⁴ In other words, he equated police monitoring of telephone lines to colonial officials rummaging through a house. Similarly, in his dissent in *Goldman*, Justice Murphy encouraged the Court to reconsider its approach to technological issues and argued that the Fourth Amendment should be interpreted broadly to protect “the individual against unwarranted intrusions by others into his private affairs.”⁴⁵ He noted:

The conditions of modern life have greatly expanded the range and character of those activities which require protection from intrusive action by Government officials if men and women are to enjoy the full benefit of that privacy which the Fourth Amendment was intended to provide. It is [the Court’s] duty to see that this historic provision receives a construction sufficiently liberal and elastic to make it serve the needs and manners of each succeeding generation.⁴⁶

For Justice Murphy, it mattered not that there had been no physical entry into Goldman’s office since “science has brought forth far more effective devices for the invasion of a person’s privacy than the direct and obvious methods of oppression which were detested by our forebears and which inspired the Fourth Amendment.”⁴⁷

Olmstead and *Goldman* were followed by the holding in *Silverman v. United States*.⁴⁸ By the time of that decision, the entire Court seemed to have become aware of the intrusive nature of new technologies. *Silverman* involved parabolic microphones—very sensitive microphones, which required a spike to be inserted into the defendant’s home in order to pick up the content of conversations.⁴⁹ The Court concluded that the police made “an unauthorized physical penetration into the premises occupied by the petitioners.”⁵⁰ Even though the Court concluded that the police conduct amounted to a search, the Court remarked on “the Fourth Amendment implications of these and other frightening

⁴⁴ *Id.* at 488.

⁴⁵ *Goldman*, 316 U.S. at 136.

⁴⁶ *Id.* at 138.

⁴⁷ *Id.* at 139-40.

⁴⁸ 365 U.S. 505 (1961).

⁴⁹ *Id.* at 506-08.

⁵⁰ *Id.* at 509.

paraphernalia which the vaunted marvels of an electronic age may visit upon human society.”⁵¹

II. KATZ AND THE “REASONABLE EXPECTATION OF PRIVACY” TEST

In the 1960s, the Court altered its approach to the Fourth Amendment and technology in its landmark decision *Katz v. United States*.⁵² The defendant in *Katz* was involved in illegal bookmaking operations.⁵³ When he placed a phone call from a telephone booth, the police were able to hear his conversation through a listening device attached to the outside of the phone booth.⁵⁴ Relying on the Court’s existing precedent, the government argued that the police did not engage in a “search” because they did not intrude into a “constitutionally protected area.”⁵⁵ The Court disagreed, focusing on whether governmental officials had violated Katz’s “expectation of privacy,”⁵⁶ and in doing so, the Court explicitly decided to shift its Fourth Amendment focus from places to persons.⁵⁷ In his concurrence, Justice Harlan agreed with the Court that the focus should be on whether Katz had an expectation of privacy (EOP) in his conversation, but he argued that the expectation must be one “that society is prepared to recognize as ‘reasonable.’”⁵⁸ Ultimately, this requirement of “reasonableness” was integrated into the EOP test so that the test became whether the police had intruded upon an individual’s “reasonable expectation of privacy” (REOP).⁵⁹ In the *Katz* case itself, the Court concluded that government agents had conducted a “search.”⁶⁰ Even though the police did not enter the booth, Katz’s expectation of a private telephone conversation was thwarted

⁵¹ *Id.*

⁵² 389 U.S. 347 (1967).

⁵³ *Id.* at 348.

⁵⁴ *Id.*

⁵⁵ *Id.* at 351-52.

⁵⁶ *Id.* at 361-62.

⁵⁷ *Id.* at 351 (“For the Fourth Amendment protects people, not places.”).

⁵⁸ *Id.* at 361.

⁵⁹ See Russell L. Weaver, *The Fourth Amendment, Privacy and Advancing Technology*, 80 MISS. L.J. 1131, 1131-1227 (2011).

⁶⁰ See *Katz*, 389 U.S. at 353.

when the police used the listening device to overhear Katz's conversation.⁶¹

Although *Katz* initially seemed to provide a more expansive and potentially more adequate test for dealing with the difficulties presented by advancing technology, the test has not lived up to expectations. "Post-*Katz* decisions continued to reveal many of the fault lines evident in the Court's pre-*Katz* Fourth Amendment jurisprudence as some Justices viewed the *Katz* test expansively . . . [while] other Justices viewed the *Katz* test more . . . restrictively."⁶² These fault lines were particularly evident when the Court tried to apply the test to new forms of technology. In general, *Katz* did not provide the Court with a sound basis for dealing with police use of new forms of technology. In general, the Court has construed the REOP test rather narrowly in the sense that there are few cases when the Court has found that a REOP exists when it would not have found a search under its pre-*Katz* precedent.⁶³ In a number of cases, the Court has concluded either that there was no REOP (and, therefore, no search) in the particular case before the Court, or the Court has held that defendants did not have standing to assert Fourth Amendment rights because they lacked a REOP.⁶⁴ "In only a few limited situations has the Court expanded the definition of a search beyond its pre-*Katz* limits."⁶⁵ As a result, any hopes that *Katz* would expand Fourth Amendment jurisprudence and provide a bulwark against advancing technology have not been fully realized.

The Court's focus under the REOP test concerned whether an individual held a "reasonable expectation of privacy" against a particular police practice.⁶⁶ The difficulty was that, as technology improved and became potentially more intrusive, individual expectations of privacy became less and less reasonable. Today, relatively sophisticated listening devices are available that allow the police and neighbors to snoop on others, thereby raising

⁶¹ *Id.* at 352.

⁶² *See* Weaver, *supra* note 59, at 1154.

⁶³ *Id.* at 1159.

⁶⁴ *Id.*

⁶⁵ *Id.*

⁶⁶ *Katz v. United States*, 389 U.S. 347, 360 (1967) (Harlan, J., concurring).

questions about whether individuals even hold expectations of privacy. In other words, given the Court's restrictive construction of the *Katz* test, an inevitable collision has developed between privacy expectations and advances in technology.

The other problem with the *Katz* test, and one that the Court has not addressed, is whether the government may manipulate the citizenry's REOP. Suppose that the government acquires sophisticated listening devices—devices that are not readily available to the ordinary citizen—and the government announces that it will place such monitoring devices on public property outside of every home in order to monitor all conversations that take place in those houses twenty-four hours a day.⁶⁷ Is it possible for citizens to have a “reasonable expectation of privacy” in their conversations under such circumstances? Would it be permissible to take the less intrusive step of monitoring all public streets with video surveillance cameras? Of course, these general ideas, originally conceived, albeit slightly differently, by Professor Anthony Amsterdam,⁶⁸ raise the broader question of how courts should determine whether an expectation of privacy exists. Even though technology is available, and ordinary people have access to it, the Court could hold that it is unacceptable in a free society for the government to use that technology to spy on people. Such a decision would reaffirm the expectations of people and better define the Court's sense of what constitutes a “search” within the meaning of the Fourth Amendment.

Thus, the Court left open a number of fundamental questions and issues, and there was doubt about how the *Katz* test would be applied. For example, is there a violation of a REOP if the police place cameras in public places to monitor what happens there? In the Court's post-*Katz* decisions, the Court has not provided individuals with much protection against the onslaught of advancing technology.⁶⁹ “On balance, . . . the Court's post-*Katz* technology decisions reveal many of the problems and difficulties that existed with the Court's pre-*Katz* precedent, and the Court's post-*Katz* non-technology decisions continue to struggle with

⁶⁷ See Amsterdam, *supra* note 5, at 349.

⁶⁸ *Id.*

⁶⁹ See Weaver, *supra* note 59, at 1158.

many of the issues debated by the Court in *Olmstead*, *Goldman* and *Silverman*.⁷⁰

In several cases, the Court has been asked to resolve the question of whether the police may use low-flying helicopters to spy on property. This issue is of particular importance to Fourth Amendment jurisprudence because police can combine the helicopter—itsself an expensive piece of machinery—with other more sophisticated pieces of electronic equipment such as highly sophisticated binoculars and cameras that allow the police to observe small details about a place on the ground. For example, may the police fly a helicopter over a house and use high tech binoculars to peer down through the skylight of a house or through the windows of the house? In *California v. Ciraolo*,⁷¹ police flew a helicopter 1000 feet above Ciraolo's property in order to confirm their suspicion that he was growing marijuana on his property.⁷² The Court held that Ciraolo did not have a REOP because the plane was in navigable airspace, and the marijuana plants could be viewed with the naked eye from that position.⁷³ As a result, there was no search within the meaning of the Fourth Amendment.⁷⁴

The Court rendered a similar decision in *Florida v. Riley*,⁷⁵ a case in which police flew at an even lower level of 400 feet in order to determine whether a property owner was growing marijuana inside a greenhouse.⁷⁶ Although the Court concluded that Riley had a subjective expectation of privacy in the greenhouse, the Court relied on *Ciraolo* in holding that the expectation was not objectively reasonable since the roof was open and the interior of the greenhouse could be viewed from the air.⁷⁷ The Court rejected the argument that a flight at 400 feet was more objectionable than a flight at 1000 feet, as occurred in *Ciraolo*.⁷⁸

⁷⁰ *Id.* at 1185.

⁷¹ 476 U.S. 207 (1986).

⁷² *Id.* at 209.

⁷³ *Id.* at 213-14.

⁷⁴ *Id.*

⁷⁵ 488 U.S. 445 (1989).

⁷⁶ *Id.* at 448-89.

⁷⁷ *Id.* at 450-51.

⁷⁸ *Id.* at 451-52.

In another case, *Dow Chemical Company v. United States*,⁷⁹ the government supplemented a fly-over with photographic equipment that allowed it to photograph Dow's chemical manufacturing facility.⁸⁰ Although the complex could be viewed from the air, Dow had installed elaborate security barriers around the perimeter of the complex that barred ground-level public views of the complex, and it also took security measures against low-flying aircraft.⁸¹ However, because the complex was so large, Dow was not able to conceal all exterior manufacturing equipment within the complex from aerial views.⁸² The Court held that the aerial photography did not involve a search within the meaning of the Fourth Amendment, partly because the EPA was using commonly available technology.⁸³ Even though Dow Chemical might have objected under state law had a competitor tried to use aerial photography technology to spy on its industrial processes, the Court emphasized that the EPA was not a competitor.⁸⁴ Moreover, since the exterior of the plant could be viewed from a plane, or from a nearby hillside overlooking the facility, the Court concluded that Dow Chemical had no Fourth Amendment claim regarding the exterior of its plant.⁸⁵ As such, the Court rejected Dow's argument that the government had photographed curtilage, rather than "open fields,"⁸⁶ and upheld the allowance of the inspection and photography because neither involved a physical intrusion into buildings at the plant.⁸⁷

The Court has also rendered several decisions in cases involving the use of electronic beepers to track a suspect's movement, applying the REOP test with mixed results for the protection of privacy interests. In *United States v. Knotts*,⁸⁸ the Court held that police were allowed to monitor a beeper placed in a bottle of chloroform in an effort to determine where Knotts was

⁷⁹ 476 U.S. 227 (1986).

⁸⁰ *Id.* at 229.

⁸¹ *Id.*

⁸² *Id.*

⁸³ *Id.* at 231.

⁸⁴ *Id.* at 231-32.

⁸⁵ *Id.* at 234-35.

⁸⁶ *Id.* at 235.

⁸⁷ *Id.* at 237-38.

⁸⁸ 460 U.S. 276 (1983).

traveling, without committing a search.⁸⁹ The Court noted that an individual has a lesser expectation of privacy in an automobile; since *Knotts* was traveling on a public highway, the beeper simply allowed the government to monitor things that the police could have observed from the highway with their own eyes.⁹⁰

In *United States v. Karo*,⁹¹ another case that involved police use of an electronic beeper, the police again monitored a beeper to track Karo's movements, but they continued to monitor the beeper even after it arrived at a remote cabin.⁹² As a result, they were able to ascertain how long Karo kept it there, when he moved it, and where he took it.⁹³ Although the Court held that installation of the beeper into the chemical product did not invade Karo's Fourth Amendment rights,⁹⁴ the Court concluded that the police had violated Karo's REOP by continuing to monitor the beeper once it entered the house.⁹⁵ By doing so, the police learned how long the beeper remained there.⁹⁶

Cases like *Knotts* and *Karo* raise troubling questions about whether police can use other types of technology in public places. For example, suppose that the government decides to set up cameras in order to monitor what happens in public places. From a law enforcement perspective, these cameras can be highly effective in helping the police catch criminals. In fact, England maintains a fairly elaborate camera system that enables it to monitor what happens in public places such as subway stations.⁹⁷ When a bomb was set off in the London Underground a few years ago,⁹⁸ the police were able to identify and ultimately apprehend the perpetrators by reviewing closed circuit television tapes from the affected place.⁹⁹ Under decisions like *Knotts* and *Karo*, it

⁸⁹ *Id.* at 285.

⁹⁰ *Id.* at 281-282.

⁹¹ 468 U.S. 705 (1984).

⁹² *Id.* at 708.

⁹³ *Id.*

⁹⁴ *Id.* at 711.

⁹⁵ *Id.* at 714-16.

⁹⁶ *Id.* at 708.

⁹⁷ See Temple-Raston & Smith, *supra* note 9.

⁹⁸ See Don Van Natta, Jr. & David Johnson, *London Bombs Seen as Crude; Death Toll Rises to 49*, N.Y. TIMES, July 9, 2005, at A1.

⁹⁹ See House of Commons, *Report of the Official Account of the Bombings in London on 7th July 2005*, NAT'L ARCHIVES (May 11, 2006), <http://www.official->

would seem that the police could justifiably set up similar closed circuit televisions in the United States and monitor what happens in all public places all the time, or review the tapes afterward in an effort to uncover evidence of illegal conduct. Perhaps governments could supplement these closed circuit systems with facial recognition technology so that they could better identify those who enter public places.¹⁰⁰ From a societal perspective, the question is whether society is willing to allow the government to set up such camera networks in public places and to allow the police or other governmental officials to continuously monitor, or later review tapes, in order to determine what people are doing in public places. Decisions like *Knotts* and *Karo* do not seem to preclude the use of such technologies.

*Kyllo v. United States*¹⁰¹ is one of the few cases in which the Court has applied the REOP test expansively. In *Kyllo*, an FLIR—a thermal imaging system—was used, allowing the police to determine the amount of heat emanating from a residence.¹⁰² Police used the FLIR because they thought that Kyllo might be growing marijuana in the attic of his home with the aid of grow lights which emanated heat.¹⁰³ The FLIR allowed police to determine whether there were excessive levels of heat coming from the roof and thereby establish probable cause to obtain a warrant to search Kyllo's home.¹⁰⁴ The Court found this search violated Kyllo's REOP and therefore concluded that police use of the FLIR constituted a search within the meaning of the Fourth Amendment.¹⁰⁵ In doing so, the Court focused on the fact that the police were using FLIR to obtain information about Kyllo's home and emphasized the sanctity of the home under the Fourth Amendment.¹⁰⁶ While the Court recognized that the police could

documents.gov.uk/document/hc0506/hc10/1087/1087.pdf; *New July 7 Bomber Image Released*, BBC NEWS (Oct. 2, 2005, 12:28 AM), http://www.news.bbc.co.uk/go/pr/fr/-/2/hi/uk_news/4301512.stm.

¹⁰⁰ See Kanya A. Bennett, *Can Facial Recognition Technology Be Used to Fight the New War Against Terrorism? Examining the Constitutionality of Facial Recognition Surveillance*, 3 N.C. J. L. & TECH. 151 (2001).

¹⁰¹ 533 U.S. 27 (2001).

¹⁰² *Id.* at 29-30.

¹⁰³ *Id.* at 29.

¹⁰⁴ *Id.* at 30.

¹⁰⁵ *Id.* at 40.

¹⁰⁶ *Id.* at 31.

have maintained visual surveillance of the home, the Court expressed doubt about the permissibility of allowing the police to use technology to gain information about what was happening inside of a house.¹⁰⁷ As a result, even though the technology used by the police in *Kyllo* was relatively crude (technology that merely allowed police to determine the amount of heat emanating from the house), and provided only limited information about what was happening inside the house, the Court concluded that a search had occurred because the technology was being used to snoop on the interior of a person's home, a situation in which an individual's REOP is particularly strong.¹⁰⁸ Moreover, the Court expressed concern that FLIR technology might be used to obtain "intimate details" about what was happening inside the house (e.g., the hour at which the lady of the house took her bath).¹⁰⁹ The Court concluded that the minimal nature of the intrusion should not defeat *Kyllo's* REOP since in the home, "all details are intimate details," and "the Fourth Amendment draws 'a firm line at the entrance of the house,'" and a warrant is required for such a search.¹¹⁰

Although *Kyllo* is one of the few United States Supreme Court decisions to construe *Katz* expansively (in addition to decisions like *Katz* itself and *Karo*), the decision contained an ominous warning regarding the privacy implications of advancing technology.¹¹¹ The decision did not go so far as to hold that the police were absolutely precluded from using advanced technology to pry into people's homes.¹¹² On the contrary, the Court stated that the government was precluded from gaining information regarding the interior of the home using technology that was not "in general public use."¹¹³ This limitation might not raise particular concerns regarding the use of thermal imaging technology because only particularly nosy neighbors might be interested in whether high levels of heat emanate from a neighbor's home, and, therefore, limited numbers of people might

¹⁰⁷ *Id.* at 33.

¹⁰⁸ *Id.* at 34-35.

¹⁰⁹ *Id.* at 38.

¹¹⁰ *Id.* at 37-38, 40 (quoting *Payton v. New York*, 445 U.S. 573, 590 (1980)).

¹¹¹ *Id.* at 34.

¹¹² *Id.* at 40.

¹¹³ *Id.*

be inclined to purchase such technology. However, neighbors might be inclined to purchase and use other technological devices (e.g., sophisticated listening devices) that would allow them to ascertain what their neighbors are saying or doing inside their homes. Moreover, such devices are becoming increasingly cheaper and easier to obtain. The same can be said for spyware that might be used by police to track an individual's movements on the Internet from a remote location, or even to invade someone else's computer. As a result, *Kyllo* may have opened up a gaping hole in the Fourth Amendment. If an individual does not have a REOP in an activity, then there is no "search" when the police invade that activity. If a REOP disappears as certain technologies become more common among citizens, then the advance of technology could eventually obliterate Fourth Amendment protections.

Of course, the Court *might* decide to construe *Katz* and *Kyllo* as providing protection even against technology that is readily available to the general public. On the other hand, the Court might hold that an individual cannot have a reasonable expectation of privacy (vis-à-vis the police or other neighbors) regarding technology that is readily available to the public and in general use. If the Court moves in that direction, the *Katz* test will be an instrument for undermining rather than protecting Fourth Amendment rights. Of course, if technology becomes so widely available, the Court may reverse course or may choose not to adhere to the *Kyllo* dicta. Furthermore, Congress or state legislatures may decide to step in and provide protection against such snooping. Just as legislatures have adopted restrictions against wiretapping and against computer hacking, they could choose to regulate sophisticated listening devices, or other such invasive technology. Nevertheless, the *Kyllo* dicta is disconcerting.

The final technology case, *City of Ontario v. Quon*,¹¹⁴ concerns whether an individual has a REOP in text messages. That issue was complicated by the fact that the pager on which the text messages were sent was issued to Quon by his employer, a public entity, as well as by the fact that there was a governmental policy that provided that the employer could audit

¹¹⁴ 130 S. Ct. 2619 (2010).

the text messages.¹¹⁵ The text messages were not stored on city-owned computers, but instead were sent through a wireless provider that stored the messages on its computer network.¹¹⁶ Quon's usage was investigated because he exceeded his character allotment for his pager, thereby subjecting the city to additional charges.¹¹⁷ The city sought to determine whether the messages were business-related or personal.¹¹⁸ After the city investigated Quon's account with the wireless provider, it commenced disciplinary proceedings when it determined that Quon had sent a number of non-work-related, sexual texts.¹¹⁹

The Court did not resolve the question of whether Quon had a REOP in text messages sent via his work pager, but simply assumed that he did.¹²⁰ However, the Court was well aware of the problem of advancing technology and expressed great uncertainty regarding how the REOP test should be applied to those technologies.¹²¹ The Court also expressed a reluctance to develop far-reaching rules governing advancing technology.¹²² Specifically, the Court expressed concern that communications technologies were changing quickly, as were societal expectations regarding behavior in regard to those technologies.¹²³ The Court was wary about how societal norms would eventually evolve in relation to such technologies.¹²⁴ Moreover, the Court acknowledged that "[c]ell phone and text message communications are so pervasive that some persons may consider them to be essential means or necessary instruments for self-expression, even self-identification. That might strengthen the case for an expectation of privacy."¹²⁵ However, given that cell phones and pagers are now relatively cheap, the Court suggested that employer policies regarding the use of such devices might impact an employee's privacy

¹¹⁵ *Id.* at 2624-25.

¹¹⁶ *Id.* at 2625.

¹¹⁷ *Id.* at 2625-26.

¹¹⁸ *Id.* at 2626.

¹¹⁹ *Id.*

¹²⁰ *Id.* at 2630.

¹²¹ *Id.* at 2629.

¹²² *Id.*

¹²³ *Id.*

¹²⁴ *Id.* at 2630.

¹²⁵ *Id.*

expectations.¹²⁶ As a result, the Court simply assumed that Quon had a REOP in the pager.¹²⁷ Regardless, the Court concluded that Quon could not assume that his messages were immune from employer scrutiny, especially given that he was told that his messages were subject to audit, and the nature of his job suggested that his actions might come under scrutiny given that he was charged with responding to SWAT team emergencies.¹²⁸

III. THE *JONES* DECISION

Seemingly recognizing that the REOP test was not producing satisfactory results, the Court somewhat altered its approach to the Fourth Amendment and technology issues in *United States v. Jones*.¹²⁹ In that case, the police suspected that Jones was trafficking in illegal drugs and attached a GPS tracking device to Jones' vehicle while it was parked in a public place.¹³⁰ The police used the GPS to monitor the car's movements on public streets over twenty-eight days, obtaining information sufficient for an indictment.¹³¹ In resolving the case, the Court chose not to apply the REOP test and instead invoked its earlier property-based approach to the Fourth Amendment.¹³² Finding that the police had trespassed against Jones' vehicle, and concluding that "[t]he Government physically occupied private property for the purpose of obtaining information," the Court held that the police had committed a "search" within the meaning of the Fourth Amendment.¹³³

Although *Jones* seemed to represent a departure from more recent Fourth Amendment precedent, that decision would not have altered the result in many decisions decided under the REOP test. For example, it is unlikely that the *Jones* test would have produced a different result in the helicopter overflight cases. In *Ciraolo*, *Riley*, and *Dow Chemical*, the police did not trespass on

¹²⁶ *Id.*

¹²⁷ *Id.*

¹²⁸ *Id.* at 2629.

¹²⁹ 132 S. Ct. 945 (2012).

¹³⁰ *Id.* at 948.

¹³¹ *Id.*

¹³² *Id.* at 949-54.

¹³³ *Id.* at 949.

the the defendant's property. As such, it would have been difficult to argue that the *Jones* test should apply rather than the REOP test. Of course, the Court *could* hold that such low flights constitute a trespass, and therefore that the *Jones* test applies to such situations. Thus far, however, the Court has been unwilling to find a trespass in these situations and has instead tended to view airspace in terms of whether it is navigable.

It is also doubtful that *Jones* would have required a different result in the beeper cases. In both *Knotts* and *Karo*, the beeper was inserted in a bottle of chloroform before it was delivered to the suspects, and there was no trespass on the suspects' possessory interests.¹³⁴ Moreover, *Jones* made it clear that those cases would have been decided the same way: "Karo accepted the container as it came to him, beeper and all, and was therefore not entitled to object to the beeper's presence, even though it was used to monitor the container's location."¹³⁵ Since the Court found that Karo had no REOP, it concluded that there was no search within the meaning of the Fourth Amendment.¹³⁶

One might have assumed that *Jones* would have led to an overruling of the Court's "open fields" case, *Oliver v. United States*.¹³⁷ In *Oliver*, the police trespassed on the defendant's property, bypassing "no trespassing" signs and a locked gate, in order to observe Oliver's field where he was growing marijuana.¹³⁸ Since *Oliver* involved a physical trespass, *Jones* would suggest that the police had conducted a search by trespassing on Oliver's fields. However, in *Oliver*, the Court concluded that an "open field" does not constitute a Fourth Amendment search even though it would have constituted a trespass at common law.¹³⁹ *Jones* held that an "open field, unlike the curtilage of a home, is not one of those protected areas enumerated in the Fourth Amendment," and, therefore, "[t]he Government's physical intrusion on such an

¹³⁴ *United States v. Knotts*, 460 U.S. 276, 278 (1983); *United States v. Karo*, 468 U.S. 705, 708 (1984).

¹³⁵ *Jones*, 132 S. Ct. at 952.

¹³⁶ *Karo*, 468 U.S. at 714-16.

¹³⁷ *Oliver v. United States*, 466 U.S. 170 (1984).

¹³⁸ *Id.* at 174.

¹³⁹ *Jones*, 132 S. Ct. at 953.

area—unlike its intrusion on the ‘effect’ at issue here—is of no Fourth Amendment significance.”¹⁴⁰

CONCLUSION

For more than a century, the United States Supreme Court has struggled with the question of how to apply the Fourth Amendment to the privacy implications of advancing technology. Prior to *Katz*, the Court used a very traditional definition of the term “search,” defining it as involving a search of a person or of a “constitutionally protected area.” In applying that test in cases like *Olmstead*, *Goldman*, and *Silverman*, the Court was divided about how to handle new forms of technology, and it rapidly became clear that the concept of an “intrusion into a constitutionally protected area” was not adequate to provide protection against some of the new devices that had been developed, and some justices were concerned about the future development of new and even more sophisticated forms of surveillance technology.

When *Katz* was decided, some might have hoped that its REOP test would offer the Court an effective approach for analyzing more sophisticated forms of technology under the Fourth Amendment. Indeed, in *Katz* itself, the Court used the REOP test to find a search under circumstances that would not have constituted a search under the Court’s pre-*Katz* precedent. However, in the decades following *Katz*, the REOP test has not been expansively construed, nor has it provided an effective bulwark against advancing technology. With few exceptions, the Court has construed the REOP test rather narrowly and has rarely concluded that a REOP existed in situations in which the Court would not have found a search under its pre-*Katz* precedent. As a result, the Court has held that there is no violation of an individual’s REOP when the police conduct surveillance using electronic listening devices, plane flyovers, and electronic beepers. In addition, police have been allowed to combine technologies without violating a person’s REOP. For example, they have been allowed to use both aircraft and photographic equipment together in order to spy down onto property.

¹⁴⁰ *Id.*

Jones suggests that some justices may be inclined to view the REOP test more expansively. The decision itself does nothing more than revive and apply the old trespass test in a context in which the Court would not have found a search under the REOP test. However, in her concurrence in *Jones*, Justice Sotomayor stated that she would have applied the REOP test in order to conclude that the police had conducted a search.¹⁴¹ She noted that even though GPS technology is inexpensive and readily available, it was used surreptitiously in that case. As such, she would have resolved the REOP question by asking “whether people reasonably expect that their movements will be recorded and aggregated in a manner that enables the Government to ascertain, more or less at will, their political and religious beliefs, sexual habits, and so on.”¹⁴² Departing from prior precedent, she did not regard as significant the fact that the police could have gathered the same information through traditional surveillance methods.¹⁴³ Justice Alito, joined by Justices Ginsburg, Breyer, and Kagan, also concurred in *Jones*; these justices would have analyzed the case under the REOP test and would have concluded that the police had conducted a search within the meaning of the Fourth Amendment.¹⁴⁴ Although Justice Alito would not have found a search had the police engaged in relatively short-term monitoring, he viewed the *Jones* situation differently because the police monitored the GPS for more than four weeks in that case.¹⁴⁵

The one thing that remains clear is that the Court needs to take steps to deal with the problem of advancing technology. Otherwise, society risks the possibility of an Orwellian atmosphere with significant restrictions on personal freedom. This risk is particularly acute as new spying technologies, including drones, come into existence. Of course, protections could come from the legislative arena if Congress or state legislatures decide to pass legislation prohibiting certain types of surveillance. Nevertheless, *Jones* should give Court watchers some hope that

¹⁴¹ *Id.* at 954-57.

¹⁴² *Id.* at 956.

¹⁴³ *Id.*

¹⁴⁴ *Id.* at 957-64.

¹⁴⁵ *Id.* at 964.

the Court may finally be prepared to resolve the unfulfilled expectations of the *Katz* decision.