AN EQUILIBRIUM-ADJUSTMENT THEORY OF THE FOURTH AMENDMENT

Orin S. Kerr

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Orin S. Kerr[*]

Fourth Amendment law is often considered a theoretical embarrassment. The law consists of dozens of rules for very specific situations that seem to lack a coherent explanation. Constitutional protection varies dramatically based on seemingly arcane distinctions.

This Article introduces a new theory that explains and justifies both the structure and content of Fourth Amendment rules: the theory of equilibrium-adjustment. The theory of equilibrium-adjustment posits that the Supreme Court adjusts the scope of Fourth Amendment protection in response to new facts in order to restore the status quo level of protection. When changing technology or social practice expands government power, the Supreme Court tightens Fourth Amendment protection; when it threatens government power, the Supreme Court loosens constitutional protection. Existing Fourth Amendment law therefore reflects many decades of equilibrium-adjustment as facts have changed over time. This simple argument explains a wide range of puzzling Fourth Amendment doctrines, including the automobile exception; rules on using sense-enhancing devices; the decline of the mere evidence rule; how the Fourth Amendment applies to the telephone network; undercover investigations; the law of aerial surveillance; rules for subpoenas; and the special Fourth Amendment protection for the home.

The Article then offers a normative defense of equilibrium-adjustment. Equilibrium-adjustment maintains interpretive fidelity while permitting Fourth Amendment law to respond to changing facts. Its wide appeal and focus on deviations from the status quo facilitates coherent decisionmaking amidst empirical uncertainty and yet also gives Fourth Amendment law significant stability. The Article concludes by arguing that judicial delay is an important precondition to successful equilibrium-adjustment.

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INTRODUCTION

The Fourth Amendment regulates police investigations with a textually simple prohibition of "unreasonable searches and seizures."[1] Despite the Amendment's concise text, judicial decisions interpreting the Fourth Amendment are infamous for their byzantine patchwork of protections. The caselaw includes hundreds of seemingly unrelated rules that answer whether and how much Fourth Amendment protection exists for different police practices. Scholars complain that the law is "a mess,"[2] "an embarrassment,"[3] and "a mass of contradictions."[4]

Consider a few examples. If the police search a home, they need a search warrant.[5] If the police search a car for the same evidence, however, no warrant is needed.[6] If the police tap the contents of a phone call, they need a warrant; but if they record the numbers dialed from the phone, the Fourth Amendment doesn't apply at all.[7] The police need a warrant to point a thermal imaging device at a home to learn if the walls are hot, but the Fourth Amendment permits the police to fly an airplane over the home and photograph it without restriction.[8] If investigators install a tracking device on a suspect's car to follow its location, the Fourth Amendment does not apply unless the tracking device happens to enter a home, at which point a warrant is required.[9] The police need a warrant to place a microphone on a public phone booth,[10] but the Fourth Amendment doesn't apply if they

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[1] 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.").

[2] Ronald J. Allen & Ross M. Rosenberg, *The Fourth Amendment and the Limits of Theory: Local Versus General Theoretical Knowledge*, 72 ST. JOHN'S L. REV. 1149, 1149 (1998) (noting that many commentators have expressed that the Fourth Amendment is "a mess").

[3] AKHIL REED AMAR, THE CONSTITUTION AND CRIMINAL PROCEDURE: FIRST PRINCIPLES 1 (1997).

[4] Craig M. Bradley, *Two Models of the Fourth Amendment*, 83 MICH. L. REV. 1468, 1468 (1985).

[5] *See* Welsh v. Wisconsin, 466 U.S. 740, 748 (1984) ("[A] principal protection against unnecessary intrusions into private dwellings is the warrant requirement imposed by the Fourth Amendment on agents of the government who seek to enter the home for purposes of search or arrest.").

[6] *See* Wyoming v. Houghton, 526 U.S. 295, 300, 307 (1999).

[7] *Compare* Katz v. United States, 389 U.S. 347, 353 (1967) (requiring a warrant for tapping a telephone call), *with* Smith v. Maryland, 442 U.S. 735, 742 (1979) (holding that the recording of numbers dialed does not constitute a search regulated by the Fourth Amendment).

[8] *Compare* Kyllo v. United States, 533 U.S. 27, 34–35 (2001) (holding that a warrant is required for use of a thermal imaging device), *with* California v. Ciraolo, 476 U.S. 207, 215 (1986) (holding that aerial surveillance from public airspace is not a search).

[9] *See* United States v. Karo, 468 U.S. 705, 714 (1984).

[10] *Katz*, 389 U.S. at 353.

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send an undercover agent wearing a microphone into the target's home.[11]

These Fourth Amendment rules can appear to be selected almost at random.[12] The patchwork of results has made search and seizure law a theoretical embarrassment to scholars and judges alike. According to scholars, the law lacks any theoretical grounding. It is cobbled together from "a series of inconsistent and bizarre results that [the Court] has left entirely undefended."[13] In a recent interview, Justice Scalia expressed a similar disdain from his perspective as author of many Fourth Amendment opinions. "I just hate Fourth Amendment cases," he complained.[14] According to Justice Scalia, every case is so fact-specific that any particular opinion merely answers "variation 3,542."[15]

This Article offers a theory of Fourth Amendment development that explains and justifies the patchwork of Fourth Amendment rules, both in their form and the general outline of their content. It does so by identifying a dynamic it calls "equilibrium-adjustment." Equilibrium-adjustment is a judicial response to changing technology and social practice. When new tools and new practices threaten to expand or contract police power in a significant way, courts adjust the level of Fourth Amendment protection to try to restore the prior equilibrium.

The result is a correction mechanism. When changing technology or social practice makes evidence substantially harder for the government to obtain, the Supreme Court generally adopts lower Fourth Amendment protections for these new circumstances to help restore the status quo ante level of government power. On the other hand, when changing technology or social practice makes evidence substantially easier for the government to obtain, the Supreme Court often embraces higher protections to help restore the prior level of privacy protection. Fourth Amendment protection resembles the work of drivers trying to maintain constant speed over mountainous terrain: judges add extra gas when facing an uphill climb and ease off the pedal on the downslopes.

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[11] United States v. White, 401 U.S. 745, 753 (1971).

[12] *See, e.g.*, Samuel C. Rickless, *The Coherence of Orthodox Fourth Amendment Jurisprudence*, 15 GEO. MASON U. C.R. L.J. 261, 261 (2005) ("If there is any statement to which virtually all constitutional scholars would agree, it is that orthodox Fourth Amendment jurisprudence is a theoretical mess, full of doctrinal incoherence and inconsistency, revealing not much more than the constitutionally unmoored ideological predispositions of shifting majorities of Supreme Court justices.").

[13] Silas J. Wasserstrom & Louis Michael Seidman, *The Fourth Amendment as Constitutional Theory*, 77 GEO. L.J. 19, 29 (1988).

[14] Interview by Susan Swain with Antonin Scalia, Associate Justice of the United States Supreme Court, in Washington, D.C. (June 19, 2009), *available at* http://supremecourt.c-span.org/assets/pdf/AScalia.pdf.

[15] *Id.*

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This Article argues that Fourth Amendment caselaw reflects several generations of equilibrium-adjustment. New practices arise, begin to threaten the Fourth Amendment equilibrium, and then are addressed by judicial decisions that make the necessary adjustment. An appreciation of the continuing challenge of new tools and new practices to search and seizure law reveals the central role of equilibrium-adjustment in the development of the Fourth Amendment. While existing doctrine is complex and fact-specific, it is not at all a "mess." Rather, it is the product of hundreds of equilibrium-adjustments made over time. Those adjustments were usually made intuitively in response to felt necessities, but in rare cases were made out of a conscious recognition of the need for changes to keep the law in balance in the face of new practices and technological change.

This Article has three major goals. The first goal is to show how equilibrium-adjustment explains a great deal of the overall shape and substance of Fourth Amendment doctrine. Equilibrium-adjustment explains diverse topics such as the relatively modest protection for automobile stops and searches;[16] the low protection for subpoenas;[17] the Supreme Court's treatment of telephone surveillance;[18] the special protections for the home;[19] the surveillance rules that govern locating devices;[20] the lack of protection for undercover agents;[21] the rules for sense-enhancing devices;[22] the decline of the mere evidence rule;[23] the open fields doctrine;[24] and the rules on aerial surveillance.[25] Equilibrium-adjustment reveals the common core of these disparate doctrines. It identifies a recurring dynamic that reconciles and explains a surprising amount of law that previously has not been linked.

The Article's second goal is to defend equilibrium-adjustment as a tool for interpreting the Fourth Amendment. Changes in technology and social practice present a major challenge to the law of search and seizure. The police continuously devise new ways to catch criminals. Criminals continuously devise new ways to avoid being caught. This state of flux poses an underappreciated difficulty for judges interpreting the Fourth Amendment. New facts constantly threaten to upset the balance of police power. Equilibrium-adjustment maintains fidelity to the Fourth Amendment in the face of rapid change by allowing

16 *See* section II.B, pp. 502–08.
17 *See* section II.C.1, pp. 509–10.
18 *See* section II.D, pp. 512–17.
19 *See* section II.E.1, p. 517–18.
20 *See* section II.A.2, pp. 499–501.
21 *See* section II.E.2, pp. 518–21.
22 *See* section II.A.3, pp. 501–02.
23 *See* section II.C.2, pp. 510–12.
24 *See* section II.F, pp. 522–25.
25 *See* section II.F.2, pp. 524.

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judges to maintain the balance struck by the Fourth Amendment. Its broad appeal to Justices from a wide range of interpretive approaches fosters legal coherence given the conditions of group decisionmaking, helps encourage accurate factfinding amidst empirical uncertainty, and fosters the stability of search and seizure law.

The Article's third goal is to identify the conditions of successful equilibrium-adjustment. It contends that equilibrium-adjustment requires either judicial delay or else a willingness to create Fourth Amendment rules that are time-bound. For a new rule to be durable, the new practice or technology must evolve and reach a point of relative stability before courts can know how to restore the status quo ante. On the whole, delay is likely to be a superior option to time-bound rulemaking. Early intervention raises a high risk of error. These lessons have a normative implication for Supreme Court practice: the Supreme Court should generally decline to review how the Fourth Amendment applies to new technologies until the technology, its use, and its societal implications have stabilized.

The Article proceeds in three parts. Part I introduces the general theory of equilibrium-adjustment in Fourth Amendment law. Part II provides a range of examples of equilibrium-adjustment in major areas of Fourth Amendment doctrine. Part III defends the legitimacy of the theory and explores the conditions of successful equilibrium-adjustment.

I. THE THEORY OF EQUILIBRIUM-ADJUSTMENT IN FOURTH AMENDMENT LAW

This Part explains the general theory of equilibrium-adjustment. It begins by introducing the Fourth Amendment at Year Zero, an imaginary time before the introduction of tools both to commit crimes and to catch wrongdoers. It then shows how changing technology and social practice can destabilize the balance of police power of traditional Fourth Amendment rules. It suggests that courts might respond to these new facts by adjusting legal rules to restore the preexisting balance of police power — what this paper calls "equilibrium-adjustment." When changing technology or social practice expands police power, threatening civil liberties, courts can tighten Fourth Amendment rules to restore the status quo. The converse is true, as well. When changing technology or social practice restricts police power, threatening public safety, courts can loosen Fourth Amendment rules to achieve the same goal. This Part concludes by situating the theory of equilibrium-adjustment both in Fourth Amendment doctrine and in constitutional common law reasoning.

A. The Fourth Amendment in Year Zero

Let's start at the beginning — the beginning of time. Imagine a world with no tools to help commit or investigate crimes. There are

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no cars. There are no guns. The postal service doesn't exist, so you can't use the mail. There is no telephone and no Internet. The police can't identify fingerprints, take photographs, or collect DNA. Criminals can't wire money or escape in a getaway car. In this hypothetical world, both the cops and the robbers have to ply their trades unaided by technology. If you want to commit a crime, you have to do it yourself, in person, and by hand. If you're a police officer, you have to investigate offenses the same way. No tools allowed.

I will call this hypothetical world "Year Zero." Year Zero represents an imaginary time, a sort of beginning of the universe for criminal investigations. It is a fiction, of course. Mankind's use of tools long predates criminal laws, so there was never a time with crimes but no tools. The concept of Year Zero is helpful, however, as it focuses attention on how changing technologies challenge investigatory rules. By starting with a hypothetical world with no tools, we can see how the introduction of new tools poses a constant challenge to any legal system that seeks to regulate police investigations. So, just as a thought experiment, imagine how the Fourth Amendment would apply in a Year Zero in which no tools exist to help commit or investigate crimes. Then we will introduce tools to see how their use poses a fundamental problem for the law of search and seizure.

In a world without tools, there would be only a few ways a suspect could commit a crime and only a few ways the police could catch him. Criminals would need to commit crimes in person, with their bare hands, going to the victims or having the victims come to them. To investigate crimes, the police would watch suspects in public. They could interview eyewitnesses. They could knock on the door of a suspect's home and ask to speak with him. They could forcibly search a suspect's "houses, papers, and effects"[26] and seize evidence for use in court. And finally, they could arrest a suspect, seizing his "person[],"[27] and bring him before a judge to face criminal charges. In this simple world of Year Zero, criminal investigations would employ only a handful of basic steps to find evidence, seize it, and use it to prove cases beyond a reasonable doubt in court.

Appreciating how new tools challenge search and seizure law requires identifying a state of the law as a starting point for Year Zero. This may seem tricky at first, as Year Zero is an imaginary time. But the choice is made relatively simple by what may at first seem a curious coincidence: the Fourth Amendment rules that govern the investigatory practices of Year Zero have remained largely fixed. The legal

[26] U.S. CONST. amend. IV.

[27] *Id.*; *see also* United States v. Watson, 423 U.S. 411, 428 (1976) (Powell, J., concurring) (noting that "an arrest, the taking hold of one's person, is quintessentially a seizure").

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rules for the simple facts of Year Zero are reasonably well known going back to the Framing era, and it turns out that these rules have remained surprisingly constant over time. As a result, we can take these timeless rules of Fourth Amendment law as our starting point for the law of Year Zero.

What are these rules? First, the police are always free to watch suspects in public.[28] They can walk up to suspects and monitor them at close range and ask them questions.[29] If the police wish to make an arrest, however, they need probable cause to believe the suspect has committed a crime.[30] If the police wish to break into a home to search, they ordinarily need a search warrant based on probable cause.[31] All of these rules have existed in Fourth Amendment law since the Founding, and none have changed over the intervening years.

One critical feature of these simple rules is that they establish a certain level of police power to enforce the law. On one hand, the rules give the police the powers needed to investigate crime successfully in many cases. The authorities can conduct surveillance in public and speak with suspects, victims, or eyewitnesses. They can walk the beat and observe whatever they see in public. If they gather probable cause, they can obtain warrants and make arrests. In the world of Year Zero, a world without tools, these rules give the police enough power to enforce the law to a reasonably satisfactory level. On the other hand, the rules of Year Zero intentionally limit police power to avoid abuses. To detain a person, the police must first have probable cause. To search a home, the police ordinarily must have a warrant. When the police obtain a warrant, the warrant must only allow the government to search particular places for particular evidence: no

[28] For a Framing-era articulation of this principle, see *Entick v. Carrington*, (1765) 95 Eng. Rep. 807 (K.B.). *Entick* was an English case that inspired the passage of the Fourth Amendment: the opinion by Lord Chief Justice Camden noted that "the eye cannot by the laws of England be guilty of a trespass." *Id.*, *in* 19 Howell's State Trials 1029, 1066 (C.P. 1765); *see also* Boyd v. United States, 116 U.S. 616, 626–27 (1886) (noting that *Entick* was "in the minds of those who framed the Fourth Amendment"). For a modern invocation of the same principle, see *Katz v. United States*, 389 U.S. 347 (1967), which noted that "[w]hat a person knowingly exposes to the public, even in his own home or office, is not a subject of Fourth Amendment protection." *Id.* at 351 (citations omitted).

[29] For a Framing-era articulation of the principle, see 2 WILLIAM HAWKINS, A TREATISE OF THE PLEAS OF THE CROWN 130 (Thomas Leach ed., 6th ed. 1787). For a modern articulation of the principle, see *INS v. Delgado*, 466 U.S. 210, 216 (1984).

[30] For a Framing-era articulation of the principle, see 4 WILLIAM BLACKSTONE, COMMENTARIES *289; and 2 MATTHEW HALE, THE HISTORY OF THE PLEAS OF THE CROWN *72–74. Specifically, the officer could make a warrantless arrest for a crime committed in his presence. *See* Samuel v. Payne, (1780) 99 Eng. Rep. 230 (K.B.) 231. For a modern articulation of this principle, see *Watson*, 423 U.S. at 417.

[31] For a Framing-era articulation of the principle, see *Entick*, 95 Eng. Rep. at 818. For a modern articulation of the principle, see *Kirk v. Louisiana*, 536 U.S. 635, 638 (2002).

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"general" warrants are permitted.[32] The law intentionally limits the scope of police power to limit the government's capacity for abusive practices. It allows particularly invasive government practices only in limited circumstances when investigators have specific reasons to link the person or place to the crime in a way that justifies the intrusion.

The result is that the Fourth Amendment at Year Zero strikes a balance of police power. The rules give government officials some powers to enforce the law and yet also restrict that power to avoid government abuses. The fact that the Fourth Amendment in Year Zero strikes a balance between security and privacy does not mean that it does so in some logically perfect way, of course. Perhaps the Fourth Amendment of Year Zero gives too much power to the police. Or perhaps the Fourth Amendment in Year Zero confers too much privacy. The point is not that the balance is inherently correct, but rather that Year Zero strikes a stable balance of power to enforce the law. Year Zero's world without tools involves relatively clear investigatory rules that strike a certain balance between government power and individual rights.

B. *How New Facts Threaten the Balance of Power*

In Year Zero, the level of police power was stable. In the real world, however, that level is under constant assault. The reason is that the facts of criminal investigations constantly change: new facts threaten the balance of power by changing the consequences of old rules. It is easy to lose sight of the ubiquity of new facts in Fourth Amendment law because our social norms adjust so quickly to change. Technology in use just two decades ago is often a topic of nostalgia today instead of wonderment (remember VHS tapes?). As a result, recognizing change is something like describing the taste of water. It is all around us. But the dynamic is important to recognize: the facts of criminal investigations, and therefore the facts that the Fourth Amendment regulates, are constantly evolving in response to technological and social change.

Much of the reason is that people use tools. Tools mediate much of daily life in our modern technological age. We wake up and put on our glasses, turn on the coffeemaker, boot up our computers to check email, and later drive to work. Throughout the day, tools assist us in doing what we want to do. Further, tools change rather than remain static. New tools replace older ones. Every year brings a new iPhone

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[32] This timeless principle is a significant part of the Fourth Amendment's text. *See* U.S. CONST. amend. IV ("[N]o 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.").

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or its equivalent — a new tool that changes our sense of the possible. The continual introduction and adoption of new and better tools are critical aspects of modern society.

Change renders the balance of police power struck by Year Zero inherently unstable. Change alters how people try to commit crimes and how the police try to catch them. New tools threaten the privacy/security balance because they enable both cops and robbers to accomplish tasks they couldn't before, or else to do old tasks more easily or cheaply than before. For criminals trying to commit crimes, new tools mean new ways to commit offenses more easily and more cheaply, or with less risk of being caught than before. If both the law and police practice remain constant, the use of new tools to commit crimes will let wrongdoers commit more crimes and will correspondingly diminish police power to stop them. Of course, the police use new tools, too. For the police trying to solve crimes, new tools mean new ways to solve crimes.[33] If the police use those new tools — and if the law allows the use of the new tools more readily than traditional methods to investigate the same offense — the new tools can expand government power by letting the government collect more information more easily than before.

A few examples reveal the dynamic. Consider a simple flashlight. In Year Zero, it would be difficult for the police to conduct searches or seizures at night because they could not see in the dark. The flashlight changes that. Flashlights let the police see at night by illuminating the insides of dark spaces. The use of a flashlight gives the police an important advantage. It lets the police see what they would not otherwise able to see, or at least see as often or as quickly. And flashlights have proved and remain very useful in helping to solve criminal cases: the Supreme Court encountered Fourth Amendment challenges to the use of flashlights in 1927, and again in 1983.[34] A flashlight is a standard tool on a police officer's belt even today. If police use of flashlights is regulated less than alternative ways of observing dark spaces,

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[33] Overlap between these two categories can exist in practice, of course. For example, the police can use guns to subdue criminals much like criminals can use guns to subdue their victims. Part II discusses how the Fourth Amendment applies when both criminals and the police use the same new tools.

[34] *See* United States v. Lee, 274 U.S. 559, 563 (1927). In *Lee*, a government agent used a searchlight to illuminate cases of illegal liquor stored in the deck of a boat. The Court held that use of the light was not a search: "Such use of a searchlight is comparable to the use of a marine glass or a field glass. It is not prohibited by the Constitution." *Id.*; *see also* Texas v. Brown, 460 U.S. 730, 739–40 (1983) (holding that "shining [a] flashlight to illuminate the interior" of a car "trenched upon no right secured . . . by the Fourth Amendment" because "the use of artificial means to illuminate a darkened area simply does not constitute a search, and thus triggers no Fourth Amendment protection").

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then the net effect of flashlight use by the police is an expansion of government power.

The opposite dynamic occurs when criminals use tools to commit crimes. Consider the telephone. In Year Zero, a criminal who wanted to meet with co-conspirators would arrange a meeting in person. He would need to travel to them, they to him, or both. Public travel would give the police an easy way to follow the conspiracy: the police would watch the suspects in person and see where they went, identifying who met, where, and for how long. The telephone changes that. The widespread use of the telephone allows co-conspirators to communicate without traveling. The telephone replaces the exposed public meeting with a virtual meeting that is entirely hidden from public view.[35] As a result, the police officer walking the beat no longer can know whether a meeting has occurred, much less who participated and how long it lasted. Unsurprisingly, the use of the telephone has long proved a popular tool among conspirators: it has facilitated crimes ranging from the bootlegging operation in the Supreme Court's first wiretapping case in the Prohibition Era[36] to the drug operations portrayed in the popular television show *The Wire*.

These are just a few discrete examples of a broader mosaic. They teach the lesson that the balance of police power established by Fourth Amendment rules is inherently unstable. New tools and social practices constantly threaten this balance. The critical question is, therefore, how Fourth Amendment doctrine should respond when a shift occurs.

C. The Theory of Equilibrium-Adjustment and Six Scenarios

The central claim of this Article is that judges respond to new facts in Fourth Amendment law in a specific way: judges adjust Fourth Amendment protection to restore the preexisting level of police power. I call this approach "equilibrium-adjustment," and I use it to refer to the judicial practice of resolving the hard cases triggered by new facts by determining what rule will best restore the prior equilibrium of police power.

Equilibrium-adjustment acts as a correction mechanism. When judges perceive that changing technology or social practice significantly weakens police power to enforce the law, courts adopt lower Fourth Amendment protections for these new circumstances to help restore the status quo ante. On the other hand, when judges perceive that changing technology or social practice significantly enhances govern-

[35] *See* Orin S. Kerr, *The Case for the Third-Party Doctrine*, 107 MICH. L. REV. 561, 575–77 (2009).

[36] *See, e.g.*, Olmstead v. United States, 277 U.S. 438 (1928). For an outstanding history of the *Olmstead* case, see WALTER F. MURPHY, WIRETAPPING ON TRIAL (1965).

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ment power, courts embrace higher protections to counter the expansion of government power. The resulting judicial decisions resemble the work of drivers trying to maintain constant speed over mountainous terrain. In an effort to maintain the preexisting equilibrium, they add extra gas when facing an uphill climb and ease off the pedal on the downslopes.

The core claim of this Article is that this dynamic is a central but largely unrecognized element of Fourth Amendment decisionmaking. Equilibrium-adjustment is a recurring judicial instinct in search and seizure cases. It occurs during different decades, in cases with very different stakes. And it occurs among Justices associated with very different constitutional theories of interpretation.[37] Pragmatists do it. Originalists do it. Living constitutionalists do it, too. Different judges will have different instincts as to how and when to engage in equilibrium-adjustment. But a surprisingly wide range of judges follow the principle of equilibrium-adjustment in a surprisingly wide range of cases.

Judges may be more or less self-aware of their behavior. In some cases, judges expressly articulate the need for adjustment.[38] In other cases, judges will act more by instinct. Whatever their level of awareness, judges will generally act to avoid two dangerous futures. When changing technology and social practice expand government power, judges will fear dystopia. Excessive police power is easily abused, enabling bad-faith use of police authority. Ratcheting up privacy protection can avoid that. On the other hand, when changing technology and social practice limit government power, judges will act to avoid anarchy. Insufficient police power will leave the police unable to enforce the law. Loosening legal restrictions can ensure that the law is enforceable. In both contexts, adjusting the level of legal protection can respond to the new facts by restoring the prior level of police power. This does not mean that judges respond to small changes, or to new facts that impact only a few cases. But new facts can arise that have a transformative effect on police power. When that major change occurs, tweaking the rules may seem necessary.

My claim is not that judges *succeed* in maintaining the status quo ante of police power, but rather that they *try* to do so. The impact of intervening changes on police power can be difficult to measure. Details of past practices and past legal rules can be difficult to unearth. Changing crime rates, different levels of police funding, evolving crimes, and the path dependence of other legal rules can impact police power, but are difficult for judges to measure or identify. For all these

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[37] *See* section III.A, pp. 526–29.
[38] *See* section II.A, pp. 496–502.

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reasons, accurately discerning when and how to adjust police power can be a Herculean task. This Article takes no position on whether and when judges succeed at restoring the status quo ante of police power. Rather, it focuses on how judges *try* to adjust Fourth Amendment rules to maintain police power in response to changing facts.

Equilibrium-adjustment does not occur only in cases involving new technologies. It is not only a theory about new tools. Rather, it can occur whenever the facts of criminal investigations change in a significant way. In many cases, the facts will change as a result of new technologies. But facts can change for other reasons, including changing social practices, new social arrangements, new criminal laws, or a mix of reasons. For analytical purposes, it may help to identify six relatively distinct scenarios in which equilibrium-adjustment occurs:

1. The Government Uses a New Tool to Find Evidence. — In this scenario, the government uses a surveillance device to obtain information that previously would have been unobtainable or less easily obtained. The tool expands government power, and the use of the tool is unilateral in that the government uses it but the suspect does not.

2. Criminals Use a New Tool to Evade Detection. — In this scenario, suspects use a new tool to evade detection or capture by the government. The tool restricts government power by making it harder for the government to observe the crime or to catch the wrongdoer.

3. New Crimes and New Practices. — In this scenario, social and/or political developments introduce new crimes and new ways in which crimes are committed and investigated. No new technology or tool is necessarily involved, as the changes concern the state of criminal law or new social practices.

4. Both Criminals and the Police Use a New Tool. — In this scenario, both the criminals and police use a new technology. Criminals use the technology to facilitate crimes, and the government uses new methods of surveilling usage of that technology to detect the criminals.

5. The Status Quo. — In this scenario, the facts remain the same today as they were in Year Zero. No equilibrium-adjustment has occurred, or seems likely to occur in the future. Stable technology and social practice enable the law to remain stable over time.

6. Defeating Countermeasures. — In this scenario, the police and criminals both change their practices to gain an advantage over the other. Criminals take technical measures to thwart government surveillance, and the government responds by using countermeasures to thwart the new defenses. Both sides try to use new methods to their advantage to change the level of privacy protection.

All six scenarios above generate the same perceived need for equilibrium-adjustment. They all implicate the same dynamic, whether they appear to be technology-focused or not. As a result, the theory of equilibrium-adjustment is not just a theory about how the Fourth Amendment applies to changing technology. Rather, it is a theory

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about how the Fourth Amendment develops *generally*. It is a theory that explains how Fourth Amendment law deals with new facts after Year Zero.

D. Equilibrium-Adjustment and Fourth Amendment Doctrine, at Both the Principles Layer and the Application Layer

The reader may be wondering how equilibrium-adjustment fits into Fourth Amendment doctrine. Answering this important question requires recognizing two different types (or "layers") of Fourth Amendment doctrine. The first is what I will call the "principles layer" of doctrine, and the second is what I will call the "application layer" of doctrine. The primary role of equilibrium-adjustment is to guide the transition from the principles layer of doctrine to the application layer of doctrine.

The principles layer of doctrine refers to the general doctrinal definitions of the key terms found in the text of the Fourth Amendment. The Fourth Amendment prohibits unreasonable searches and seizures: the principles level of doctrine explains the broad framework of what is a "search," what is a "seizure," and what makes a search or seizure "reasonable."[39] Specifically, a search occurs if government conduct violates a "reasonable expectation of privacy."[40] A seizure of property occurs if the government substantially "interfere[s] with an individual's possessory interest[]" in the property.[41] Further, a search or seizure is constitutionally "reasonable" in a range of circumstances depending on the context.

At the principles layer, Fourth Amendment doctrine is very open ended. Consider the "reasonable expectation of privacy" test, which is the best-known doctrinal test in Fourth Amendment law. Supreme Court opinions studiously avoid saying what makes an expectation of privacy "reasonable."[42] The cases are all over the map.[43] The Justices cannot even agree on whether the test is normative or descriptive, or what normative goal or descriptive reality the test is supposed to cap-

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[39] U.S. CONST. amend. IV ("The right of the people to be secure . . . against unreasonable searches and seizures, shall not be violated . . . .").

[40] Katz v. United States, 389 U.S. 347, 360 (1967) (Harlan, J., concurring).

[41] United States v. Jacobsen, 466 U.S. 109, 113 (1984).

[42] *See* 1 WAYNE R. LAFAVE, SEARCH AND SEIZURE: A TREATISE ON THE FOURTH AMENDMENT § 2.1(a), at 430 (4th ed. 2004) ("The Supreme Court . . . has never managed to set out a comprehensive definition of the word 'searches' as it is used in the Fourth Amendment."); *see also* O'Connor v. Ortega, 480 U.S. 709, 715 (1987) (O'Connor, J.) (plurality opinion) ("We have no talisman that determines in all cases those privacy expectations that society is prepared to accept as reasonable."); Oliver v. United States, 466 U.S. 170, 177 (1984) ("No single factor determines whether an individual legitimately may claim under the Fourth Amendment that a place should be free of government intrusion not authorized by warrant.").

[43] *See* Orin S. Kerr, *Four Models of Fourth Amendment Protection*, 60 STAN. L. REV. 503, 507–22 (2007).

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ture.[44] Skeptics claim that the only guide to what makes an expectation of privacy "reasonable" is that five Justices say so: when the Court looks at whether society is prepared to say an expectation of privacy is reasonable, these skeptics assert, the Justices are actually "looking in a mirror."[45] The key lesson, I think, is that the general principles of the Fourth Amendment are far from self-executing. The principles layer of Fourth Amendment doctrine is sufficiently open-textured to support a wide range of outcomes.

The principles layer of doctrine can be contrasted with the application layer of doctrine. The application layer applies the open-ended principles layer and announces the rule that will govern a particular set of facts. Consider a few examples of application-layer doctrine. Police use of a drug-sniffing dog to identify narcotics in a car does not violate a reasonable expectation of privacy and therefore is not a "search."[46] A police officer "seizes" both driver and passengers when he pulls over a car.[47] And a police search of a car based on probable cause to believe evidence exists inside is constitutionally "reasonable."[48] These application-layer doctrines are examples of the rules and standards that courts announce in specific contexts to give life to the open-ended principles governing what is a "search," a "seizure," and "reasonable."

Equilibrium-adjustment plays two roles in this framework. The primary role is to guide the transition from the principles layer of doctrine to the application layer of doctrine. Equilibrium-adjustment directs how courts can choose among the various options permitted by the open-ended principles of Fourth Amendment law. In a sense, equilibrium-adjustment is the principle that governs the application of the principles layer: it guides how courts go from the general principles of Fourth Amendment law to the concrete, fact-specific rules that make up Fourth Amendment doctrine more generally. As a result, equilibrium-adjustment is both outside Fourth Amendment doctrine and also a driving force behind it.

A second role of equilibrium-adjustment is more historical: equilibrium-adjustment has influenced how the Supreme Court articulates the principles layer of Fourth Amendment doctrine. As we will see more closely in section II.E, the need for equilibrium-adjustment in Fourth Amendment law eventually led the Supreme Court to adopt the "reasonable expectation of privacy" test. The open-ended nature of

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44 *See id.*

45 PHILLIP E. JOHNSON, CASES AND MATERIALS ON CRIMINAL PROCEDURE 19 (3d ed. 2000) ("When the court refers to society's judgment, it is looking in a mirror.").

46 *See* Illinois v. Caballes, 543 U.S. 405, 408–09 (2005).

47 *See* Brendlin v. California, 551 U.S. 249, 251 (2007).

48 *See* Wyoming v. Houghton, 526 U.S. 295, 299–301 (1999).

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the test enables the needed equilibrium-adjustment at the application layer of the doctrine.[49] But this secondary role should not overshadow the primary day-to-day role of equilibrium-adjustment, which is guiding the transition from the principles layer of doctrine to the application layer of doctrine.

E. Equilibrium-Adjustment and Common Law Reasoning

At this point the reader may be wondering how equilibrium-adjustment is different from the kind of common law reasoning widely understood to drive constitutional development. Many areas of constitutional law reflect what we might term a "common law" method.[50] The Supreme Court is understood to gradually evolve constitutional doctrine from one form to another in a case-by-case way in response to felt necessities.[51] How is equilibrium-adjustment different, if at all?

On one hand, equilibrium-adjustment shares some roots with general common law reasoning in constitutional law. The phrase "common law reasoning" can mean different things to different people. But for the most part, common law reasoning has been understood as a method of using "equity to adapt [preexisting] rules to gradual social change."[52] Equilibrium-adjustment is such a method: like common law reasoning more generally, it features a case-by-case reassessment of preexisting law in light of present-day realities. This shared theme should be unsurprising. Most Supreme Court Justices are generalists. As a result, decisionmaking in one area of constitutional law naturally resembles decisionmaking in other areas of constitutional law.

On the other hand, equilibrium-adjustment differs from general common law evolution of constitutional law in a significant way. Equilibrium-adjustment aims to restore the status quo rather than to change it. The common law method has been thought to ensure that the law reflects the "felt necessities of the time, the prevalent moral and political theories, [and] intuitions of public policy, avowed or unconscious."[53] The common law approach therefore adapts to new val-

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[49] *See* Kerr, *supra* note 43, at 542–49 (discussing the various models available to courts in deciding Fourth Amendment issues).

[50] *See, e.g.*, David A. Strauss, *Common Law Constitutional Interpretation*, 63 U. CHI. L. REV. 877 (1996); *see also* Antonin Scalia, *Common-Law Courts in a Civil-Law System: The Role of United States Federal Courts in Interpreting the Constitution and Laws*, *in* A MATTER OF INTERPRETATION 3, 37–47 (Amy Gutmann ed., 1997).

[51] *See* BENJAMIN N. CARDOZO, THE NATURE OF THE JUDICIAL PROCESS 178 (1921) ("Little by little the old doctrine is undermined. Often the encroachments are so gradual that their significance is at first obscured. Finally we discover that the contour of the landscape has been changed, that the old maps must be cast aside, and the ground charted anew.").

[52] Thomas C. Grey, *Holmes on the Logic of the Law*, *in THE PATH OF THE LAW* AND ITS INFLUENCE 133, 137 (Steven J. Burton ed., 2000).

[53] OLIVER WENDELL HOLMES, THE COMMON LAW 1 (1881); *see also* Strauss, *supra* note 50, at 896–97, 900–02 (advocating a common law "rational traditionalism" in which judges treat

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ues. As societal values change, so must legal rules. In contrast, equilibrium-adjustment always plays defense. It attempts to restore the tus quo ante, not serve as an instrument of change. In that sense, equilibrium-adjustment is a kind of "command theory"[54] — a theory of interpretation seeking guidance from prior historical moment — rather than a theory of legal evolution. This is different from most concepts of common law reasoning in constitutional law.[55]

Two examples of common law reasoning elsewhere in constitutional law — right-to-privacy and Commerce Clause caselaw — may illuminate the difference.[56] First, consider the Supreme Court's cases involving the right to privacy, including access to contraception, abortion, and regulation of sexual activities. You might expect the evolution of the right-to-privacy cases to develop along similar lines as the evolution of Fourth Amendment law, as both areas involve constitutional rights to privacy against government invasion.[57] Similarities in method are largely absent, however. In the right-to-privacy cases, the Justices have stark disagreements about whether the Court's lawmaking is legitimate.[58] The Court's controlling opinions tend to reveal the Justices' grappling with broad principles, first articulated in the cases themselves, and attempting to apply those principles informed by a sense of current societal values and the broader role of the Supreme Court in American society.[59] Whatever one thinks of these cases, they do not suggest an effort to restore a status quo ante level of protection. The common law reasoning of the right-to-privacy cases is a very different exercise from the equilibrium-adjustment observed in Fourth Amendment law.

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their moral judgments and judgments of fairness and sound public policy as legitimate sources of constitutional interpretation).

[54] Strauss, *supra* note 50, at 885–87.

[55] *See* Scalia, *supra* note 50, at 37–41.

[56] *See, e.g.*, HARRY H. WELLINGTON, INTERPRETING THE CONSTITUTION chs. 5–6 (1990) (describing caselaw on the constitutional right to privacy as an application of common law reasoning); John T. Valauri, *Confused Notions and Constitutional Theory*, 12 N. KY. L. REV. 567, 582 (1985) (describing courts' application of common law decisionmaking in their review of the Commerce Clause); *see also* David A. Strauss, *The Modernizing Mission of Judicial Review*, 76 U. CHI. L. REV. 859, 860–61 (2009) (noting substantive due process and Commerce Clause precedents as examples of areas of constitutional law in which the Supreme Court has tried to "moderniz[e]" doctrine in response to perceived public opinion).

[57] *Cf.* Thomas P. Crocker, *From Privacy to Liberty: The Fourth Amendment After* Lawrence, 57 UCLA L. REV. 1, 3–5 (2009) (arguing that conceptual similarities between the Fourth Amendment and the constitutional right to privacy justify incorporating aspects of the latter into the former).

[58] The wide range of perspectives found in the majority, concurring, and dissenting opinions filed in *Stenberg v. Carhart*, 530 U.S. 914 (2000), illustrates the point. *Compare id.* at 955 (Scalia, J., dissenting), *with id.* at 951 (Ginsburg, J., concurring).

[59] *See, e.g.*, Planned Parenthood of Se. Pa. v. Casey, 505 U.S. 833, 845–77 (1992) (plurality opinion).

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The evolution of Commerce Clause doctrine provides another example.[60] Over time, the federal government's Commerce Clause authority has expanded dramatically. What began as a limited grant of power over only certain types of "commerce" has evolved into an almost-plenary grant of power to regulate pretty much everything involving markets.[61] There are reasons for this evolution, and some of those reasons involve technological change. Thanks to trains, cars, airplanes, the telephone, and the Internet, we live today in a vastly more interconnected world than did the citizens of the late eighteenth century.[62] For that reason, it is understandable that changing technology would alter the balance of federal/state power struck by the preexisting legal rule. At the same time, Commerce Clause doctrine has responded to our changing world very differently than has Fourth Amendment law. In Commerce Clause doctrine, changing technology is understood as a reason that the federal/state balance must change.[63] Not even the most committed originalist on the Supreme Court suggests that the Commerce Clause should be interpreted in a way that restores the federal/state balance of Year Zero.[64] As a result, the evolution of Commerce Clause doctrine is quite different from the evolution of Fourth Amendment law. While the former has evolved in a common law fashion, the latter has been guided by the restorative principles of equilibrium-adjustment.

II. EXAMPLES OF EQUILIBRIUM-ADJUSTMENT IN FOURTH AMENDMENT LAW

This Part of the Article shows how the theory of equilibrium-adjustment explains a wide range of Fourth Amendment doctrines.

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[60] U.S. CONST. art. I, § 8, cl. 3 (granting Congress the power "[t]o regulate Commerce . . . among the several States").

[61] *See* Gonzales v. Raich, 545 U.S. 1, 58 (2005) (Thomas, J., dissenting) (noting that, under the rationale of the majority, Congress "can regulate virtually anything — and the Federal Government is no longer one of limited and enumerated powers").

[62] *See, e.g.*, Johnson v. Alternatives, Inc., No. 01 C 6437, 2002 WL 1949738, at *6 (N.D. Ill. Aug. 22, 2002) ("In today's interconnected world, some contact with interstate commerce is inevitable.").

[63] *See, e.g.*, United States v. Kammersell, 196 F.3d 1137, 1139 (10th Cir. 1999) (noting that the scope of the federal interstate threat statute had expanded in response to technology "[b]ecause so many local telephone calls and locally-sent Internet messages are routed out of state," resulting in federal jurisdiction that "cover[s] almost any communication made by telephone or modem, no matter how much it would otherwise appear to be intrastate in nature").

[64] *See, e.g.*, United States v. Lopez, 514 U.S. 549, 585 (1995) (Thomas, J., concurring) ("I believe that we must further reconsider [modern doctrine] with an eye toward constructing a standard that reflects the text and history of the Commerce Clause without totally rejecting our more recent Commerce Clause jurisprudence."). Even if the original legal test were adopted today, it would still lead to an increase in government power relative to the eighteenth century given the much more interconnected world that now exists.

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For each example, the analysis begins with the equilibrium of police power at Year Zero. It shows how new facts threatened the prior equilibrium, and how courts adopted rules that corrected for those threats and moved toward restoring the equilibrium of police power. In some cases, this dynamic is found in the opinions themselves. In a few others, it is revealed in largely forgotten histories, including lower-court decisions, the contents of briefs, and private letters written by the Justices. Finally, a few examples suggest the dynamic indirectly by comparing the shape of the doctrine with what equilibrium-adjustment would predict. In all three contexts, the goal is to show the major influence of equilibrium-adjustment on the development of Fourth Amendment law.

The presentation tracks the six basic scenarios of equilibrium-adjustment articulated in section I.C. It starts with government use of thermal imaging devices, radio beepers, and global positioning system (GPS) devices and shows how equilibrium-adjustment applies to government use of new surveillance tools. It turns next to how the Fourth Amendment applies to automobile searches and seizures, which demonstrates how equilibrium-adjustment applies to the use of new tools to hide criminal activity. It then turns to new crimes and new practices, and specifically how the rise of white-collar and document-based crimes altered the subpoena power and ended the mere evidence rule. Next, it addresses how the Fourth Amendment applies to the telephone, which showcases how courts apply equilibrium-adjustment when both criminals and the police use a new tool. It follows with the use of undercover agents, the law of arrests, and the special Fourth Amendment protection for the home, examples in which the absence of change explains the absence of equilibrium-adjustment and the retention of common law rules. It concludes with the treatment of open fields and aerial surveillance, which reveals how equilibrium-adjustment deals with countermeasures.

Importantly, this Article does not claim that equilibrium-adjustment explains everything in Fourth Amendment law. Several doctrines are unaffected by it. For example, the remedies for Fourth Amendment violations have fluctuated significantly over time and have not reflected equilibrium-adjustment.[65] The special needs and administrative search doctrines that largely date from the 1980s are similarly outside

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[65] *See, e.g.*, Davis v. United States, 131 S. Ct. 2419, 2423–24 (2011) (holding that "searches conducted in objectively reasonable reliance on binding appellate precedent are not subject to the exclusionary rule"); United States v. Leon, 468 U.S. 897, 913 (1984) (holding that "reliable physical evidence seized by officers reasonably relying on a warrant issued by a detached and neutral magistrate . . . should be admissible in the prosecution's case"); Mapp v. Ohio, 367 U.S. 643, 655 (1961) (holding "that all evidence obtained by searches and seizures in violation of the Constitution is . . . inadmissible in a state court").

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the dynamic of equilibrium-adjustment.[66] In those cases, the Supreme Court is guided by a balancing approach of reasonableness, and that reasonableness reflects a contemporary policy judgment rather than an effort to reach some prior equilibrium.[67] Despite these significant exceptions, the dynamic of equilibrium-adjustment turns out to have surprising explanatory force. Once recognized, it appears and reappears throughout modern Fourth Amendment law in ways that explain a significant amount of Fourth Amendment doctrine.

A. New Government Tools: Thermal Imagers, Beepers, and GPS Devices

The clearest examples of equilibrium-adjustment involve government use of new surveillance tools, such as thermal imaging devices, radio beepers, and GPS devices, to augment the physical senses. When the government uses a sense-enhancing tool, the tool expands government power: it gives government agents a power to see or know something from a location in a space not covered by the Fourth Amendment about a space that *is* protected by the Fourth Amendment. The question is, how should judges interpret the Fourth Amendment when tools expand the amount of information the government collects? The Supreme Court has answered this question by engaging in equilibrium-adjustment.

1. Thermal Imaging Devices. — An easy starting point is Justice Scalia's majority opinion in *Kyllo v. United States*,[68] a case on government use of an infrared thermal imaging device. Thermal imaging devices measure the temperature of surfaces by measuring the infrared radiation they emit.[69] The devices give their users a new way to determine the temperature inside an enclosed space. In Year Zero, if government agents wanted to know the temperature of a surface, they needed to touch it; if they wanted to know the temperature inside a home, they needed to enter the home. Thermal imaging devices can measure the outside temperature of the walls of a home from a public

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[66] *See, e.g.*, Wayne R. LaFave, *The "Routine Traffic Stop" from Start to Finish: Too Much "Routine," Not Enough Fourth Amendment*, 102 MICH. L. REV. 1843, 1853–54, 1858, 1860 n.94 (2004) (discussing the special needs and administrative search doctrines).

[67] *See, e.g.*, United States v. Knights, 534 U.S. 112, 118–21 (2001) (balancing government interests and privacy interests to hold that the Fourth Amendment permits a warrantless search of a probationer's home based on reasonable suspicion that the probationer is engaged in criminal activity). In *Knights*, the Court did not adjust the legal rule in response to changing technology or social practice. The Court did not dispense with the warrant requirement and probable cause in order to restore a prior balance of power. Rather, the Court adopted the new rule as "reasonable" based on the balance of competing interests raised by probation searches. *See id.* at 121.

[68] 533 U.S. 27 (2001).

[69] *See generally* J.M. LLOYD, THERMAL IMAGING SYSTEMS 2 (1975). Because infrared radiation varies with surface temperature, radiation provides an indication of surface temperature.

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place and in a way that reveals the likely temperature inside. The doctrinal question raised by thermal imaging devices is whether their use from a public location to determine the temperature of a home counts as a "search."

The Supreme Court answered that question in *Kyllo*. Government agents suspected that Kyllo was growing marijuana in his home using lamps that generated a great deal of heat.[70] From a city street outside Kyllo's home, the agents used a thermal imaging device to show that one wall and the roof of Kyllo's garage were unusually hot.[71] A judge issued a warrant to search Kyllo's home, with probable cause for the warrant based in part on the evidence of the high temperature of the wall and roof.[72] The search confirmed the agents' hunch, leading to criminal charges against Kyllo and a constitutional challenge to using a thermal imaging device without a warrant.[73]

Justice Scalia's opinion began by describing the Fourth Amendment as under attack from technological change. According to Justice Scalia, "[i]t would be foolish to contend that the degree of privacy secured to citizens by the Fourth Amendment has been entirely unaffected by the advance of technology."[74] It was up to the Court to determine how far technology could erode Fourth Amendment protection: "The question we confront today is what limits there are upon this power of technology to shrink the realm of guaranteed privacy."[75] To answer this question, Justice Scalia focused on "the long view."[76] "While the technology used in the present case was relatively crude," as it merely determined the temperature of a garage wall, "the rule we adopt must take account of more sophisticated systems that are already in use or in development," such as devices that could see through walls.[77]

Justice Scalia concluded that use of a thermal imaging device was a search that violated a reasonable expectation of privacy because that result was needed to preserve privacy rights in the home:

> [I]n the case of the search of the interior of homes — the prototypical and hence most commonly litigated area of protected privacy — there is a ready criterion, with roots deep in the common law, of the minimal expectation of privacy that *exists*, and that is acknowledged to be *reasonable*. To withdraw protection of this minimum expectation would be to permit police technology to erode the privacy guaranteed by the Fourth Amend-

[70] *Kyllo*, 533 U.S. at 29.
[71] *Id.* at 29–30.
[72] *Id.* at 30.
[73] *Id.*
[74] *Id.* at 33–34.
[75] *Id.* at 34.
[76] *Id.* at 40.
[77] *Id.* at 36 & n.3.

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> ment. We think that obtaining by sense-enhancing technology any information regarding the interior of the home that could not otherwise have been obtained without physical "intrusion into a constitutionally protected area" constitutes a search — at least where (as here) the technology in question is not in general public use. This assures preservation of that degree of privacy against government that existed when the Fourth Amendment was adopted. On the basis of this criterion, the information obtained by the thermal imager in this case was the product of a search.[78]

Note Justice Scalia's approach. When confronted with a new technological tool that threatened "to erode the privacy guaranteed by the Fourth Amendment," Justice Scalia interpreted the Fourth Amendment in a way that "assures preservation of that degree of privacy against government that existed when the Fourth Amendment was adopted."[79] Justice Scalia's rule restored the status quo by interpreting the Fourth Amendment to deny the police their apparent advantage in determining facts inside a home resulting from unilateral use of a new technology. It restored the government's investigatory power to the level that existed at Year Zero.

Justice Stevens's dissenting opinion reflected a similar framework. Justice Stevens complimented the majority for being "properly and commendably concerned about the threats to privacy that may flow from advances in the technology available to the law enforcement profession."[80] But in Justice Stevens's view, it was improper to "decide[] this case based largely on the potential of yet-to-be-developed technology."[81] According to Justice Stevens, principles of judicial restraint counseled the Justices to focus narrowly on the limited and "rather mundane issue" raised by the case.[82] In Justice Stevens's view, use of a thermal imaging device to obtain a temperature profile of the exterior of a home was not far different from use of other surveillance tools not considered a search.[83] Because the tool did not "provide[] its user with the functional equivalent of actual presence in the area being searched," its use should not be considered a search.[84]

The majority and dissent in *Kyllo* shared a common approach. Both saw the need to protect against "the threats to privacy that may flow from advances in . . . technology."[85] The two sides disagreed on relatively narrow grounds, specifically, whether to see thermal imaging

[78] *Id.* at 34–35 (citation omitted) (quoting Silverman v. United States, 365 U.S. 505, 512 (1961)).
[79] *Id.* at 34.
[80] *Id.* at 51 (Stevens, J., dissenting).
[81] *Id.* at 42.
[82] *Id.* at 51.
[83] *See id.* at 44, 47–48.
[84] *Id.* at 47.
[85] *Id.* at 51.

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devices as the first step in a fundamental shift in the balance of police power. Justice Scalia took "the long view" and saw the imaging devices as the beginning of a major shift requiring adjustment to restore the status quo.[86] In contrast, Justice Stevens construed the problem narrowly and saw the imaging devices as a modest change that did not yet require adjustment.[87]

2. *Beepers and GPS Devices.* — The Fourth Amendment limitations on the use of radio beepers and GPS devices also reflect equilibrium-adjustment. The police use radio beepers and GPS devices as tracking devices: they can be attached to a car or hidden in a container so the police can follow them. Beepers and GPS devices expand government power in two major ways. First, they make it easier and cheaper for the government to conduct location surveillance. Devoting a squad of officers to monitor a suspect's location is time-consuming and expensive. Using a GPS device to do the same thing is not. Second, the new technologies enable the government to know the location of property even in private spaces such as homes, which are ordinarily protected by the Fourth Amendment. Beepers and GPS devices emit or record the same signal regardless of location, allowing the government to know the location of property inside homes and other private spaces that would not otherwise be accessible without a warrant.

The Fourth Amendment caselaw on beeper and GPS technologies reflects the principles of equilibrium-adjustment. In *United States v. Knotts*,[88] the Supreme Court held that use of a beeper to follow a car on public highways did not amount to a search.[89] The beeper merely made it easier to conduct surveillance that would have been permissible if done by the unaided eye: "A police car following [the suspect] at a distance throughout his journey could have observed him"[90] just like the beeper did. The defendant raised the possibility that allowing the police to use beepers without a warrant would permit 24-hour mass surveillance of citizens, but the Court viewed this as a futuristic hypothetical to be considered another day if it should ever arise: "[I]f such dragnet type law enforcement practices as respondent envisions should eventually occur, there will be time enough then to determine whether different constitutional principles may be applicable."[91]

The next year, in *United States v. Karo*,[92] the Court imposed a significant limitation on *Knotts*. In *Karo*, the property being monitored

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[86] *See id.* at 40 (majority opinion).
[87] *See id.* at 47–48 (Stevens, J., dissenting).
[88] 460 U.S. 276 (1983).
[89] *Id.* at 285.
[90] *Id.*
[91] *Id.* at 284.
[92] 468 U.S. 705 (1984).

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was brought inside a private home, and the government agents could tell where in the home the property was located.[93] The Court held that using a beeper to monitor facts inside a home was a "search" that required a warrant.[94] The Court reasoned that the beeper should not be allowed to do virtually what a police officer could not do physically:

> In this case, had a [government] agent thought it useful to enter the [suspect's] residence to verify that the [property] was actually in the house and had he done so surreptitiously and without a warrant, there is little doubt that he would have engaged in an unreasonable search within the meaning of the Fourth Amendment. For purposes of the Amendment, the result is the same where, without a warrant, the Government surreptitiously employs an electronic device to obtain information that it could not have obtained by observation from outside the curtilage of the house.[95]

Taken together, *Knotts* and *Karo* demonstrate the principles of equilibrium-adjustment. The two decisions preserve the same basic set of police powers with beepers that the police had without them. The police can monitor location in public, but they cannot monitor location inside the home. The result is a rather strange line for the police to follow in practice: if the police place a beeper inside property in a car and watch it on the street, they must turn off the beeper when the property enters a home. But the result tries to preserve the same basic balance of Fourth Amendment protections in a world with beepers as existed without them. It recognizes that beeper technologies can upset the balance of Fourth Amendment protection by giving the police the power to monitor information inside homes. The decisions try to maintain the balance by interpreting the Fourth Amendment to match the balance of Year Zero.

Lower court cases on GPS surveillance have continued the adjustment process. GPS devices permit significantly more surveillance than beepers: they allow monitoring with much greater detail, less cost, less oversight, and over a longer period of time than beepers. Lower courts have divided on whether these differences take GPS devices outside the rule developed for beepers in *Knotts* and *Karo*,[96] and the Supreme Court recently granted cert to resolve the split.[97] We don't yet have the benefit of the Supreme Court's views on GPS technology, and the complex question of how equilibrium-adjustment should influ-

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[93] *Id.* at 708.

[94] *Id.* at 715, 718.

[95] *Id.* at 715.

[96] *Compare* United States v. Garcia, 474 F.3d 994, 998 (7th Cir. 2007) (Posner, J.) (concluding use of a GPS device falls within *Knotts*/*Karo* rule), *with* United States v. Maynard, 615 F.3d 544, 556–57 (D.C. Cir. 2010), *cert. granted sub nom.* United States v. Jones, 79 U.S.L.W. 3727 (U.S. June 27, 2011) (No. 10-1259) (concluding that *Knotts* is not controlling because GPS devices enable dragnet surveillance).

[97] *Maynard*, 615 F.3d 544, *cert. granted sub nom. Jones*, 79 U.S.L.W. at 3727.

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ence the Court's analysis is beyond the scope of this Article. For now, the key point is that the existing GPS decisions have drawn heavily on concepts of equilibrium-adjustment.

For example, Judge Posner has concluded that the beeper rules still apply to GPS surveillance of a single car when the police have a single suspect.[98] At the same time, Judge Posner left open the possibility that a different rule would apply if the government engaged in the sort of mass surveillance that GPS devices permit; the differences between GPS devices and beepers might then prove so transformational that a different rule would become appropriate.[99] A recent decision by Judge Douglas Ginsburg for the D.C. Circuit went further: it held that GPS surveillance of a single car for a one-month period was just the kind of "dragnet" surveillance mentioned in *Knotts* that justified a different rule, namely, that use of a GPS device even for public surveillance is a search.[100] In a stirring dissent in a recent Ninth Circuit case, Chief Judge Kozinski agreed.[101] "The [GPS] electronic tracking devices used by the police in this case have little in common with the primitive devices in *Knotts*," he wrote.[102] "By holding that this kind of surveillance doesn't impair an individual's reasonable expectation of privacy, the panel hands the government the power to track the movements of every one of us, every day of our lives."[103] Chief Judge Kozinski's argument derives from the concept of equilibrium-adjustment: as technology becomes more invasive, Fourth Amendment protections must be tightened to limit government power.

3. Sense-Enhancing Devices and Equilibrium-Adjustment. — The important lesson from these cases is that courts are highly attuned to whether use of a particular technology upsets the preexisting balance of police power. Courts address the role of the Fourth Amendment in regulating these new technologies with a careful eye to retaining the prior balance. As new technology expands government power based on a prior rule, judges step in with new interpretations of the Fourth Amendment to cabin that new power and restore the status quo. The judges decide how the Fourth Amendment applies by engaging in equilibrium-adjustment: they adjust the level of protection so that the new technology does not significantly upset the preexisting balance of power struck at Year Zero.

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98 *Garcia*, 474 F.3d at 998.

99 *Id.*

100 *Maynard*, 615 F.3d at 556–57.

101 United States v. Pineda-Moreno, 617 F.3d 1120, 1124–26 (9th Cir. 2010) (Kozinski, C.J., dissenting from denial of rehearing en banc).

102 *Id.* at 1124.

103 *Id.*

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Sense-enhancing tools such as GPS devices and thermal imagers are the easy cases to show the role of equilibrium-adjustment. The dynamic is a stark one, and opinions explicitly discuss both how those technologies expand government power and the need to counter that effect. The harder cases are the instances in which the opinions are more opaque and the adjustment dynamic less obvious. One such example is one of the most important sets of rules in Fourth Amendment law: the rules governing searches and seizures of cars, to which I now turn.

B. New Tools to Commit Crime: The Automobile Exception

Searches and seizures of automobiles involve some of the most puzzling and often-criticized aspects of Fourth Amendment law.[104] Stopping a car is a Fourth Amendment seizure, and opening the door or trunk and looking inside is a Fourth Amendment search.[105] But the level of Fourth Amendment protection is tepid. The police can force drivers to pull over if the police have probable cause to believe any traffic law has been violated.[106] No crime needs to be suspected: every civil traffic violation suffices, including driving just one mile an hour over the speed limit.[107] After a car has been stopped, the police do not need a warrant to search it.[108] Probable cause to believe a car has evidence or contraband inside permits an extraordinarily invasive warrantless search of the car. The police can rip open upholstery,[109] break open locked trunks,[110] open any sealed containers inside,[111] and even rifle through the personal effects of passengers not suspected of any criminal activity.[112]

The Supreme Court has never offered a persuasive rationale for the weak Fourth Amendment protection offered to cars. The Court has said that automobiles support only "reduced expectations of privacy" because automobiles are heavily regulated and regularly stopped and searched without a warrant.[113] This argument is circular, of course, as it is based on the automobile exception itself. The Court also has jus-

[104] *See generally* LaFave, *supra* note 66.
[105] *See* Brendlin v. California, 551 U.S. 249, 256–59 (2007); Delaware v. Prouse, 440 U.S. 648, 653 (1979).
[106] *See* Whren v. United States, 517 U.S. 806, 810 (1996).
[107] *See, e.g.*, United States v. Guijon-Ortiz, No. 2:09-00131, 2009 WL 4545104, at *1 (S.D. W. Va. Nov. 25, 2009) (permitting a traffic stop under *Whren* for a driver who was driving sixty-six miles per hour in a sixty-five miles-per-hour zone).
[108] Wyoming v. Houghton, 526 U.S. 295, 299–301 (1999).
[109] *See* Carroll v. United States, 267 U.S. 132, 136 (1925).
[110] *See* Cady v. Dombrowski, 413 U.S. 433, 442–43 (1973).
[111] *See* United States v. Ross, 456 U.S. 798, 821 (1982).
[112] *See Houghton*, 526 U.S. at 302.
[113] California v. Carney, 471 U.S. 386, 392 (1985).

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tified the automobile exception on the ground that cars can be moved before a warrant is obtained, effectively permitting warrantless searches under the exigent circumstances exception.[114] Again, this argument makes little sense. If circumstances warrant the application of the exigent circumstances exception, why have a separate automobile exception?[115] In short, the two rationales offered for the low protection of cars are remarkably weak.

The theory of equilibrium-adjustment provides the missing explanation. To see how, we need to start at Year Zero and consider how the Fourth Amendment applied to the moving of contraband before the invention of the automobile. We then need to consider how judges perceived the threat of the automobile to police powers back when automobiles were new. That perspective reveals how the Fourth Amendment rules for automobiles end up restoring the pre-automobile status quo. In short, the modest level of privacy protection for the search and seizure of cars counterbalances the benefits that automobiles otherwise offer to criminals who use them to hide evidence of crime.

1. How Automobiles Challenged the Privacy Balance of Year Zero. — Before the introduction of the automobile, wrongdoers generally had to ship contraband out in the open. If you had contraband and wanted to bring it from point *A* to point *B* without the police noticing, you needed to wrap it up and transport it yourself in person or by wagon or else pay someone to do it for you. You couldn't rely on the post office to deliver the package for you: the Postal Service did not introduce a parcel post service permitting the shipping of packages weighing more than four pounds until 1912.[116] This difficulty posed a major problem for those engaged in crime. The privacy of your contraband was safe at home. But distributing the contraband required going out into the open where you could be caught: you needed to either carry it in a sack or perhaps in a wagon, both of which made travel quite slow and tended to expose what was being carried to fairly ready public inspection.

The automobile changed everything. Introduced as a curiosity around the beginning of the twentieth century,[117] the automobile took American society by storm in the 1920s. By the end of the decade,

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[114] *See id.*

[115] *Cf. id.* at 404 (Stevens, J., dissenting) (criticizing the warrantless search of a motor home when obtaining a warrant was possible).

[116] *See* Lloyd–La Follette Act, Pub. L. No. 62-336, 37 Stat. 539, 557 (1912); *see also* U.S. POSTAL SERV., THE UNITED STATES POSTAL SERVICE: AN AMERICAN HISTORY 1775–2006, at 28 (2007), *available at* http://about.usps.com/publications/pub100.pdf.

[117] *See generally* BEVERLY RAE KIMES, PIONEERS, ENGINEERS, AND SCOUNDRELS: THE DAWN OF THE AUTOMOBILE IN AMERICA (2005).

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around eighty percent of families owned one and more than ten percent of American jobs related to the automobile industry.[118] Relative to the horse and buggy they replaced, cars were extraordinarily fast and a remarkably secure way of transporting property secretly. Especially in the age of the Model T Ford, most cars looked the same.[119] Drivers could enter the car, lock the door, roll up the windows, and be hard to observe. They could place contraband in the trunk and lock the trunk afterward. And they could drive for hours at speeds of a locomotive while giving each driver total control of where the car would go. The shift was a dramatic one for the ease of committing contraband crimes. While it was difficult to secretly and quickly transport contraband before the automobile, its widespread use made that goal as readily attainable as cranking up the Model T, putting your contraband in the back seat, and hitting the road.

At the same time that the automobile was transforming American life, a major American political movement put the Fourth Amendment on the map for the first time: Prohibition, passed as the Volstead Act following the Eighteenth Amendment.[120] Before the Prohibition era, federal law enforcement was in its infancy. Because the Fourth Amendment only applied to the federal government, only a handful of Fourth Amendment decisions had been handed down from 1791 to 1920. Prohibition created a then-unprecedented federal role for law enforcement in chasing after bootleggers. The federal Prohibition Office was created, and federal agents began trying to uncover illegal alcohol that was being transported in violation of the Volstead Act. The automobile was a major threat to that effort: it was the obvious way for bootleggers to distribute their illegal booze quickly and without being identified.

Although it is largely forgotten today, many judges of the 1920s were highly attuned to the threat that the automobile posed to the traditional balance of power between the police and criminals. Homes and sealed packages were traditionally protected by the Fourth Amendment warrant requirement. Cars were akin to homes and sealed packages on wheels. And yet the judges of the 1920s realized that extending the home protections to cars threatened to undermine police power so dramatically as to make many laws virtually unenfor-

[118] Kim Kenney, *Cars in the 1920s: The Early Automobile Industry*, SUITE101 (Jan. 15, 2009), http://www.suite101.com/content/cars-in-the-1920s-a90169.

[119] The Ford Model T had sixty-one percent of the market share for new automobiles in 1921. W. CHAN KIM & RENÉE MAUBORGNE, BLUE OCEAN STRATEGY 194 (2005).

[120] *See* U.S. CONST. amend. XVIII (repealed 1933); National Prohibition Act, Pub. L. No. 66-66, 41 Stat. 305 (1919), *repealed by* Liquor Law Repeal and Enforcement Act, ch. 740, § 1, Pub. L. No. 74-347, 49 Stat. 872 (1935).

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ceable. The Michigan Supreme Court's dire warning from 1922 is representative:

> The automobile is a swift and powerful vehicle of recent development, which has multiplied by quantity production and taken possession of our highways in battalions, until the slower, animal-drawn vehicles, with their easily noted individuality, are rare. Constructed as covered vehicles to standard form in immense quantities, and with a capacity for speed rivaling express trains, they furnish for successful commission of crime a disguising means of silent approach and swift escape unknown in the history of the world before their advent. The question of their police control and reasonable search on highways or other public places is a serious question . . . . The baffling extent to which they are successfully utilized to facilitate commission of crime of all degrees, from those against morality, chastity, and decency to robbery, rape, burglary, and murder, is a matter of common knowledge. Upon that problem a condition and not a theory confronts proper administration of our criminal laws.[121]

Confronted with the threat of the automobile to the prior level of police power — the level that enabled the "proper administration of our criminal laws" — courts responded by adjusting the level of Fourth Amendment protection downward in order to make sure the police could continue to enforce the law.[122] The Fourth Circuit's 1924 decision in *Milam v. United States*[123] provides a good example. In *Milam*, federal agents stopped and searched a car that was suspected of carrying illegal alcohol.[124] The Fourth Circuit concluded that the Fourth Amendment permitted the police to stop and search a car without a warrant so long as they had "definite information"[125] that illegal alcohol was inside. "In view of the difficulties of enforcing the mandate of the Eighteenth Amendment," the court explained, "we cannot shut our eyes to the fact known to everybody that the traffic in intoxicating liquors is carried on chiefly by professional criminals in motor cars."[126] Given the role of automobiles in facilitating crime, the court reasoned, "[t]o hold that . . . motor cars must never be stopped or searched without a search warrant would be a long step by the courts in aid" of criminal activity.[127]

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[121] People v. Case, 190 N.W. 289, 292 (Mich. 1922).

[122] *See* United States v. Bateman, 278 F. 231, 234 (S.D. Cal. 1922) ("There is now and has been ever since this amendment went into effect almost a continuous stream of automobiles from at or near the Mexican border to Los Angeles and other parts of the country. If these automobiles could not be stopped and searched without a search warrant, the country, of course, would be flooded with intoxicating liquors, unlawfully imported.").

[123] 296 F. 629 (4th Cir. 1924).

[124] *See id.* at 630.

[125] *Id.* at 632.

[126] *Id.* at 631.

[127] *Id.*

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The Supreme Court embraced this result in *Carroll v. United States*[128] in 1925. Chief Justice Taft wrote *Carroll* in originalist terms,[129] and it is generally perceived as an originalist decision.[130] Chief Justice Taft argued that ships traditionally had been searched without a warrant, and he reasoned that cars were the modern-day equivalent of boats as they also transported property.[131] Legal historians have questioned this originalist account.[132] More importantly, a review of both the briefing in *Carroll* and Chief Justice Taft's own private correspondence indicate that *Carroll* was actually conceived as a case about neutralizing the effect of the automobile on the balance of police power. On the surface, *Carroll* was about originalism. Underneath the surface, it was all about equilibrium-adjustment.

In its brief to the Court in *Carroll*, the United States made the argument for equilibrium-adjustment clearly and forcefully. The Supreme Court needed to interpret the Fourth Amendment to stop "the unprecedented 'crime wave'"[133] caused by the automobile, the United States contended:

> Prior to the invention of the automobile, the well-settled rules of the common law and the decisions of this and the several State courts had established, with comparative certainty, a proper balance between the necessities of public authority, on the one hand, and the demands of personal liberty, on the other. The invention of this remarkable instrument of transport, however, has operated to disturb that balance.[134]

This is classic equilibrium-adjustment. A new technology upset the prior balance, requiring a deviation from an earlier rule to restore the balance of police power. Chief Justice Taft's private letters show that he agreed. In a letter written in 1923, uncovered by Robert Post, Chief Justice Taft referred to the automobile as "the greatest instrument for promoting immunity of crimes of violence that I know of in

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[128] 267 U.S. 132 (1925).

[129] *See, e.g.*, *id.* at 149 ("The Fourth Amendment is to be construed in the light of what was deemed an unreasonable search and seizure when it was adopted . . . .").

[130] *See, e.g.*, Wilson v. Arkansas, 514 U.S. 927, 931 (1995) (Thomas, J.) (citing *Carroll*, 267 U.S. at 149, for the proposition that "[i]n evaluating the scope of [the Fourth Amendment], we have looked to the traditional protections against unreasonable searches and seizures afforded by the common law at the time of the framing").

[131] *Carroll*, 267 U.S. at 150–51.

[132] *See, e.g.*, Thomas Y. Davies, *Correcting Search-and-Seizure History: Now-Forgotten Common-Law Warrantless Arrest Standards and the Original Understanding of "Due Process Of Law,"* 77 MISS. L.J. 1, 207–08 (2007) (arguing that *Carroll*'s originalist analysis is an example of "fictional originalism, because it is apparent that the Framers did not include ships within the scope of the Fourth Amendment's protections of 'persons, houses, papers, and effects'").

[133] Substituted Brief for the United States on Reargument, *Carroll*, 267 U.S. 132 (No. 15), 1924 WL 25788, at *21.

[134] *Id.* at *20–21.

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the history of civilization."[135] In a letter a few months later to his younger brother Horace, Chief Justice Taft expanded on the point:

> The statistics of crime are I agree most disheartening, and yet a large percentage of the increase, so far as crimes of larceny and robbery are concerned, is due to the automobile. That is the greatest instrument to promote immunity from punishment for crime that we have had introduced in many, many years, and we haven't as yet neutralized its effect. Whether we can do so or not is a question for men engaged in the detection of crime.[136]

Nor was this an isolated statement: at various times throughout the 1920s, both in private and in public, Chief Justice Taft repeated his view that the automobile was an "instrument of evil" that greatly expanded opportunities for criminal activity.[137]

2. *Equilibrium-Adjustment and the Automobile Exception.* — The origins of the special Fourth Amendment treatment for automobiles have largely been lost today. Fears of how cars facilitated crime have been forgotten. To today's scholars, the low protection of the automobile can seem puzzling[138]: the standard adopted over eighty-five years ago has remained enshrined in the law while its historical context has been lost behind *Carroll*'s originalist façade. When that history is recalled, the low standard of protection for the automobile is revealed as the product of equilibrium-adjustment in the Prohibition era when automobiles were first widely used in crime.

The rules today have retained that equilibrium-adjustment, resulting in a level of police power to investigate crimes involving the transportation of contraband that appears to be roughly on the same order as existed before the invention of the automobile. Before the automobile, there appear to have been few limits on the police power to stop carriages and buggies to investigate crimes.[139] These primitive forms of transportation traveled slowly and stopped frequently, and it seems that no challenges to the authority of the police to investigate in such circumstances were ever brought. When a stop occurred, contraband was reasonably likely to be visible to the police because buggies and carriages tended to be open. Those transporting contraband from one

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[135] Robert Post, *Federalism, Positive Law, and the Emergence of the American Administrative State: Prohibition in the Taft Court Era*, 48 WM. & MARY L. REV. 1, 125 n.408 (2006) (quoting Letter from Chief Justice Taft to Francis Peabody (July 12, 1923)).

[136] *Id.* (quoting Letter from Chief Justice Taft to Horace D. Taft (Nov. 16, 1923)).

[137] *Id.* at 125 & n.408. I am indebted to Dean Post for his wonderful historical work in uncovering Chief Justice Taft's correspondence about the role of the automobile.

[138] *See, e.g.*, Catherine A. Shepard, Note, *Search and Seizure: From* Carroll *to* Ross*, the Odyssey of the Automobile Exception*, 32 CATH. U. L. REV. 221 (1982).

[139] It is difficult to know the limits with certainty because no cases appear to have been brought challenging stops of carriages or buggies under either federal Fourth Amendment standards or the equivalent state constitutional standards.

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place to another had little in the way of protection: bringing property out into the open by transporting it in public was a risky move that exposed the property to significant outside inspection.

The modern rules governing traffic stops appear to recreate that level of protection. The police can stop a car whenever they have probable cause to believe a traffic law has been violated. Given that traffic laws are comprehensive and most drivers violate them at least some of the time, police have broad discretion to pull over vehicles. Although exact analogies between the power of the police to pull over cars for traffic violations today and the power to pull over horses and carriages in the nineteenth century are impossible to draw, it seems that in both cases the police had broad discretion to investigate suspicious travelers. The basic level of police power appears to have remained the same. And similarly, the modern rules provide significant power to search vehicles for evidence of crime: the police can search when they have probable cause to believe evidence is inside, which is on the same order of when they would bother to search a carriage or cart out of a good faith search for contraband.

I don't want to overstate the case. Comparisons between the stops and searches of automobiles on one hand and carts, carriages, and wagons on the other are quite difficult because the rules on the latter are not clearly known. The point is more holistic. The Fourth Amendment rules in place today are the product of equilibrium-adjustment from the 1920s, when the widespread introduction of cars threatened to dramatically facilitate crime. Those rules are still in place today, and they appear to be consistent with the considerably lower level of privacy protection that existed when criminals transported contraband before the invention of the automobile.

C. *New Practices and New Crimes: The Subpoena Power and the End of the Mere Evidence Rule*

In one of the first Supreme Court cases on the Fourth Amendment, *Boyd v. United States*,[140] the Supreme Court held that the Fourth Amendment prohibits the government from ordering a person to hand over records of financial transactions. The Court based its argument on two principles. First, the Court reasoned that an order to compel evidence was the functional equivalent of a forced physical entry by the government that required a warrant.[141] Second, the Court held that such an order was impermissible because the Fourth Amendment did not permit the government to obtain warrants for mere evidence

140 116 U.S. 616 (1886).
141 *Id.* at 621–22.

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like financial records.[142] Under the mere evidence rule, the government could only obtain warrants to seize property that was contraband, fruits of crime, or instrumentalities of crime.[143]

Over time the Supreme Court has overturned both tenets of *Boyd*. In 1906, in *Hale v. Henkel*,[144] the Supreme Court rejected *Boyd*'s equivalence of an order to compel and a direct physical entry: while the latter requires a warrant, the Court held, the former is subject to a low reasonableness standard that focuses only on whether compliance would be overly burdensome.[145] As a result, subpoenas can be used broadly to compel the disclosure of property in criminal investigations. Next, in 1967, the Supreme Court overruled the mere evidence rule in *Warden v. Hayden*.[146] Under *Hayden*, the government can get a warrant to search for and seize mere evidence such as financial records just like it can for contraband such as narcotics.[147]

What explains the Supreme Court's rejection of *Boyd*? Why did the Supreme Court reverse course and reject both the mere evidence rule and the equivalence between direct entry and orders to compel such as subpoenas? The theory of equilibrium-adjustment provides the answer. Specifically, the rise of financial frauds and white-collar crimes changed the kinds of evidence that existed, what was needed to prove a case, and how it was stored. To ensure that such offenses could be prosecuted, the Fourth Amendment rules needed to change. The mere evidence rule and the regulation of orders to compel under search warrant rules were both casualties of equilibrium-adjustment needed to respond to white-collar crimes.

1. Rejecting the Equivalence Between Orders to Compel and Direct Physical Entry. — In an important article, the late Professor Bill Stuntz has explained why the Supreme Court rejected the *Boyd* rule.[148] As Stuntz notes, the answer is in *Henkel* itself. *Henkel* was an antitrust case brought under the Sherman Act, and the Supreme Court justified the low reasonableness standard it applied in the case on grounds of substantive necessity. "[T]he privilege claimed would practically nullify the whole [Sherman Act]," the Court wrote.[149] "Of what use would it be for the legislature to declare these combinations unlawful if the judicial power may close the door of access to every available

142 *Id.* at 630.

143 Gouled v. United States, 255 U.S. 298, 310–11 (1921).

144 201 U.S. 43 (1906).

145 *Id.* at 76–77.

146 387 U.S. 294 (1967).

147 *Id.* at 308–10.

148 *See* William J. Stuntz, Commentary, *O.J. Simpson, Bill Clinton, and the Transsubstantive Fourth Amendment*, 114 HARV. L. REV. 842, 858–59 (2001).

149 *Henkel*, 201 U.S. at 70.

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source of information upon the subject?"[150] As Stuntz recognizes, "[t]he Court did not deny that subpoenas infringe privacy, nor did it scoff at the degree of the infringement. Instead, the Court said that regardless of how serious it was, the infringement had to be tolerated: we need antitrust regulation, and we need a broad subpoena power in order to have antitrust regulation."[151]

Stuntz explains that the different dynamics of traditional crimes and white-collar crimes required a new Fourth Amendment rule for subpoenas if the law were to remain enforceable:

> In white-collar investigations, the government often must examine documents and question witnesses before it can establish probable cause. That need may be the key difference between white-collar investigations and street-crime investigations. . . . In antitrust or mailfraud or tax evasion cases, the damning documents may be everything — there is no equivalent to crime scene evidence, and witnesses are typically involved in the crime. The government may be able to generate enough evidence to raise some suspicion, but the evidence (and the suspicion) will often be weak until witnesses have been called and documents examined. Thus, a probable cause standard for subpoenas would end many white-collar criminal investigations before they had begun.[152]

Stuntz concludes, "if the government is to regulate business and political affairs — the usual stuff of white-collar criminal law — it must have the power to subpoena witnesses and documents before it knows whether those witnesses and documents will yield incriminating evidence."[153]

Stuntz's persuasive explanation is merely one example of equilibrium-adjustment. A new economic era facilitated new economic conduct, and a new political environment led to new laws criminalizing some of that conduct. To make the new criminal laws enforceable, the Fourth Amendment needed to change: the *Boyd* regime, adopted in a world that did not have such crimes, no longer served the same function in a world that did. The Supreme Court rejected the old Fourth Amendment rule and embraced a new one to readjust the equilibrium and provide for the enforceability of the new laws.

2. The End of the Mere Evidence Rule. — A similar dynamic explains the Supreme Court's rejection of the mere evidence rule. The mere evidence rule traces back to English common law cases involving abusive investigations by King George III: King George pursued his political enemies by seizing their papers and rifling through them to

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[150] *Id.*
[151] Stuntz, *supra* note 148, at 859.
[152] *Id.* at 859–60 (footnotes omitted).
[153] *Id.* at 860.

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prove their lack of loyalty to him.[154] In that era, few crimes were likely to be uncovered through an examination of papers. If a burglar broke into a home, stole jewelry, and stored the loot at home, the government could obtain all the relevant evidence without seeking "mere" evidence: the burglar's tools were instrumentalities of crime, and the stolen jewelry was a fruit of crime.[155] By excluding mere evidence from the permitted scope of search warrants, however, the rule had the effect of making it more difficult for the government to use warrants to oppress political enemies. The mere evidence rule limited political abuses, not legitimate criminal investigations.

By the twentieth century, however, the mere evidence rule began to serve a different role. The rise of white-collar crimes meant that some important criminal investigations now relied on documents. Documents could reveal details of criminal activity and therefore provide evidence of crimes. As a result, the mere evidence rule now mattered in many criminal investigations. The Supreme Court recognized this point in *Gouled v. United States*,[156] in which an undercover government agent took papers relating to the suspect's business away from the suspect's office while he wasn't looking.[157] The prosecution later used the seized records at trial to help convict the suspect of defrauding the government. The Supreme Court overturned the verdict in part because the Fourth Amendment did not permit the government to access such records under the mere evidence rule. The records showing fraud were mere evidence of fraud and therefore inadmissible.[158]

The opinion in *Gouled* recognized that the mere evidence rule treated documentary evidence differently from other types of evidence. To be sure, the Court did note defensively that "[t]here is no special sanctity in papers, as distinguished from other forms of property, to render them immune from search and seizure."[159] At the same time, the use of documents was a matter of specific enumeration. "Stolen or forged papers" could be seized, the Court noted, as well as "lottery tickets, under a statute prohibiting their possession with intent to sell them."[160] The Court further expressed the view that fraudulent government contracts themselves would be considered instruments of

[154] *See, e.g.*, Entick v. Carrington, (1765) 95 Eng. Rep. 807 (K.B.) 807–08.

[155] The mere evidence rule was thus of limited importance before the twentieth century. Although the precise lines between mere evidence on one hand and contraband or instrumentalities of crime on the other had long been fuzzy, the case for a particular kind of evidence being "mere" evidence was at its strongest in the case of documentary evidence.

[156] 255 U.S. 298 (1921).

[157] *Id.* at 304–05.

[158] *Id.* at 309.

[159] *Id.*

[160] *Id.*

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committing fraud and therefore obtainable with a valid warrant.[161] At the same time, seized documents ordinarily would be inadmissible as mere evidence of crime.

The rise of white-collar crimes made the mere evidence rule untenable. Before these complex crimes arose, the rule had not substantially impeded traditional crime investigations: the kinds of records that were most likely to be "mere evidence" did not play a substantial role. As that shifted, however, the function of the mere evidence rule changed: the new crimes and new investigations meant that the rule began to impose more limits on investigations.[162] By rejecting the mere evidence rule, the Supreme Court engaged in equilibrium-adjustment. The change in how crimes were being committed made investigations more difficult under the old rule; the Supreme Court responded by changing the rule to restore the level of cause that the government needed to investigate crimes.[163]

D. Both Sides Use a New Tool: Telephone Network Surveillance

In some cases, both the government and criminals use a new technology as a substitute for conduct that would have occurred in the physical world. Criminals will use the new technology to facilitate crimes that they would have had to commit in person, and governments will use the new technology to conduct surveillance that they would have had to conduct in person. The telephone network offers a ready example. In Year Zero, if conspirators wanted to meet to carry out their plans, they needed to gather in person. They needed to travel out into open space and then arrange to gather in some private place. The telephone allows conspirators to carry out their plans in private. They can "let [their] fingers do the walking," as the old Yellow Pages

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[161] *See id.*

[162] *See, e.g.*, Pamela H. Bucy, *The Poor Fit of Traditional Evidentiary Doctrine and Sophisticated Crime: An Empirical Analysis of Health Care Fraud Prosecutions*, 63 FORDHAM L. REV. 383, 451 (1994) (noting that the end of the mere evidence rule was particularly significant in the investigation of white-collar crime cases).

[163] *See* Warden v. Hayden, 387 U.S. 294, 310 (1967). Justice Brennan's opinion did not make this point explicitly. *Hayden* justified the switch in rules on the ground that the Fourth Amendment was undergoing a major conceptual shift from protecting property to protecting privacy. Justice Brennan reasoned that the mere evidence rule was based in discredited property principles rather than modern privacy principles and should therefore be abolished. *See id.* at 306–11. This switch was overstated, however, as Fourth Amendment law had long rejected exclusive reliance on property principles and never has completely abandoned them. But even on its terms, the switch to privacy law was a switch to more interest balancing: the justification of the *Hayden* rule given the "felt need to protect privacy from unreasonable invasions," *id.* at 305, whatever form they might occur appears consistent with equilibrium-adjustment.

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advertisements recommended.[164] But the telephone network is a double-edged sword. It facilitates secret communications among co-conspirators, but it also enables new forms of surveillance, such as wiretapping, by the police.

The difficult Fourth Amendment question is how the law should apply to government surveillance on the telephone network. Consider two basic types of government surveillance on a traditional telephone system. First, the police can wiretap telephone lines and listen to the contents of calls. Second, they can go to the phone company and have the phone company make and keep records of which telephone lines were used to communicate with which other numbers at any particular time. In the first case, the government obtains the actual contents of communications: the conversations themselves. In the second case, the government obtains records *about* the communications, such as where and when they started and the two phone numbers on either end.

How does the Fourth Amendment apply? The Supreme Court's answers reflect the principles of equilibrium-adjustment. Specifically, the Court's answer for when government telephone network surveillance is a "search" has the effect of recreating the same limits on surveillance over the telephone network that exist on equivalent surveillance in the physical world. The result is the same powers and limits for government efforts to monitor communications among co-conspirators using the telephone that existed to monitor communications in Year Zero.

1. Contents of Telephone Calls: From Olmstead *to* Katz. — The Supreme Court first addressed how the Fourth Amendment applies to the interception of telephone calls in a 1928 case, *Olmstead v. United States*.[165] Roy Olmstead ran a massive bootlegging operation bringing in whiskey from Canada to Seattle in violation of the prohibition laws, and he used telephones in his home and offices to communicate with his co-conspirators.[166] Government agents climbed up telephone poles on public streets outside Olmstead's home and offices and tapped the phone lines to listen in on the calls.

At the time of *Olmstead*, the use of telephones to facilitate crime, and of government wiretapping to monitor it, was a new idea. *Olmstead* was the very first reported criminal case — at any level — in which federal agents wiretapped telephones to gather evidence.[167] Until the 1920s, the telephone was considered a tool for business and

[164] *See, e.g.*, BellSouth Corp. v. Internet Classifieds of Ohio, No. 1:96-CV-0769-CC, 1997 WL 33107251, at *3 (N.D. Ga. Nov. 12, 1997) (quoting the advertising campaigns of phone books for commercial products).
[165] 277 U.S. 438 (1928).
[166] *See id.* at 455–57.
[167] *See* MURPHY, *supra* note 36, chs. 2–3.

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emergency communications: its use for social communications was widely considered inappropriate.[168] In 1920, only about one-third of homes had a home phone,[169] and most of those were "party" lines shared with other families.[170]

In a 5–4 decision by Chief Justice Taft, the Supreme Court held that the new wiretapping practice was not a "search" or "seizure" under the Fourth Amendment.[171] Chief Justice Taft analogized telephone lines to highways, and thus saw speaking on a telephone to someone else far away as akin to going outside to speak to someone else: "By the invention of the telephone, [fifty] years ago, and its application for the purpose of extending communications, one can talk with another at a far distant place."[172] The telephone wires that carried the calls "are not part of his house or office, any more than are the highways along which they are stretched."[173]

Justice Brandeis penned a celebrated dissent that nicely tracks the basic approach of equilibrium-adjustment. When the Fourth Amendment was adopted, Justice Brandeis explained, the government could "secure possession of [one's] papers and other articles incident to his private life" by physical "breaking and entry."[174] "But 'time works changes,'"[175] Justice Brandeis explained. "Subtler and more far-reaching means of invading privacy have become available to the government."[176] In Justice Brandeis's view, the Fourth Amendment had to protect against new forms of government invasions of privacy to ensure that "[t]he progress of science"[177] did not render Fourth Amendment protections "impotent and lifeless formulas."[178] In his view, "every unjustifiable intrusion by the Government upon the privacy of the individual, *whatever the means employed*, must be deemed a violation of the Fourth Amendment."[179]

Almost forty years later, in 1967, the Supreme Court overruled *Olmstead* in *Katz v. United States*.[180] Federal agents knew that Katz regularly placed illegal bets using a public pay phone, so they placed a microphone on the phone booth without a warrant and then recorded

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[168] *See* CLAUDE S. FISCHER, AMERICA CALLING: A SOCIAL HISTORY OF THE TELEPHONE TO 1940, at 66–84 (1994).
[169] *Id.* at 113.
[170] *See id.* at 98.
[171] *Olmstead*, 277 U.S. at 466.
[172] *Id.* at 465.
[173] *Id.*
[174] *Id.* at 473 (Brandeis, J., dissenting).
[175] *Id.* (quoting Weems v. United States, 217 U.S. 349, 373 (1910)).
[176] *Id.*
[177] *Id.* at 474.
[178] *Id.* at 473 (quoting *Weems*, 217 U.S. at 373).
[179] *Id.* at 478 (emphasis added).
[180] 389 U.S. 347 (1967).

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him placing calls.[181] Katz objected that the phone booth was a "constitutionally protected area" like a home, so that monitoring his phone calls was a search.[182] The Supreme Court agreed with Katz as to the result but disagreed with Katz as to the rationale. Monitoring the phone booth was a "search" not because phone booths had a special status, but because of the context in which Katz had used that particular booth to make a call: "One who occupies it, shuts the door behind him, and pays the toll that permits him to place a call is surely entitled to assume that the words he utters into the mouthpiece will not be broadcast to the world."[183] Exactly why Katz was "surely" entitled to this assumption was explained with only one sentence: "To read the Constitution more narrowly is to ignore the vital role that the public telephone has come to play in private communication."[184]

Like Justice Brandeis's dissent in *Olmstead*, the majority opinion in *Katz* is a clear example of equilibrium-adjustment. By the 1960s, the telephone had become a vital means of communication that replaced meeting in person or sending letters. Many telephone calls occurred in public phone booths. As a result, the power to monitor communications in a phone booth when a person placed a call was the modern equivalent to the power to break into a home and listen to conversations there. *Olmstead* had to be overruled because the telephone had taken on a new role as a substitute for private meetings, thus giving it a "vital role . . . in private communication"[185] that required protection. The contents of phone calls were protected because they played the modern-day role of private meetings that were protected under the rules of Year Zero.

Only Justice Harlan articulated a legal test to support the result in *Katz*, and his solo concurrence that attempted to summarize the then-existing cases was later adopted by the full Court as the principles-layer doctrinal test for what is a "search."[186] Under Justice Harlan's test, government conduct was a search if a person subjectively expected to maintain privacy and that expectation of privacy was "one that society is prepared to recognize as 'reasonable.'"[187] Justice Harlan never explained what made an expectation of privacy reasonable, or how the Justices on the Supreme Court can tell what "society" thinks. This open-ended aspect to Justice Harlan's test became its

[181] *Id.* at 348.
[182] *Id.* at 349–50.
[183] *Id.* at 352.
[184] *Id.*
[185] *Id.*
[186] *See* Smith v. Maryland, 442 U.S. 735, 740 (1979) (adopting Justice Harlan's concurrence in *Katz*).
[187] *Katz*, 389 U.S. at 361 (Harlan, J., concurring).

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strength. The Court soon adopted Justice Harlan's formulation as the test for searches,[188] and it then went on to apply the test in ways that reflected the equilibrium-adjustment observed in *Katz*.

2. Surveillance of Numbers Dialed. — A dozen years after *Katz*, in *Smith v. Maryland*,[189] the Supreme Court ruled that the Fourth Amendment does not apply to the numbers dialed on a telephone. The Baltimore police suspected that Smith was making threatening phone calls to a robbery victim, so the police asked the phone company to install a surveillance tool to record the numbers dialed from his phone.[190] The surveillance tool, known as a "pen register," was used to show that the calls were originating from the phone in Smith's apartment.[191] The police then used that information to search Smith's apartment with a warrant and to obtain information proving his guilt in the robbery. Smith moved to suppress the evidence on the ground that the Fourth Amendment protected the numbers he dialed from his phone.[192]

The Supreme Court concluded that the Fourth Amendment did not extend that far. When Smith dialed the numbers, the Court reasoned, he had disclosed the numbers to the phone company.[193] Smith had decided to transfer that information to the phone company so the phone company could route his call. In an earlier era, the Court noted, this job was done by a person.[194] Indeed, Smith conceded that no search would have occurred if he had placed his phone calls by speaking with a human operator: if the human operator had made a recording of the numbers Smith had dialed, Smith acknowledged, he would have had "no legitimate expectation of privacy."[195] According to the Court, there was no Fourth Amendment distinction between the two scenarios: the fact that the phone company no longer used human operators to place calls did not make a difference. "We are not inclined to hold," the opinion stated, "that a different constitutional result is required because the telephone company has decided to automate."[196]

Smith may seem puzzling at first. If one assumes that the "reasonable expectation of privacy" test hinges on the expectations of most users, the decision appears wrong.[197] In all likelihood, most telephone

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[188] *See, e.g.*, *Smith*, 442 U.S. at 740.
[189] 442 U.S. 735.
[190] *Id.* at 737.
[191] *Id.*
[192] *Id.*
[193] *Id.* at 743–44.
[194] *Id.* at 744.
[195] *Id.*
[196] *Id.* at 744–45.
[197] The scholarly literature on *Smith*.is almost entirely critical, and it often contends that the Justices misapplied the *Katz* test. *See, e.g.*, David Rudovsky, *The Impact of the War on Drugs*

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users don't think that the numbers they dial are different from the conversations they have. From the standpoint of equilibrium-adjustment, however, *Smith* seems correct. The fact that the phone company decided to automate shouldn't impact privacy rights because such a rule maintains for telephone surveillance the same balance between government power and privacy rights that exists for physical world surveillance. Whether a company automates is irrelevant because it *needs* to be irrelevant to maintain the preexisting balance. Equilibrium-adjustment focuses on restoring the balance of power, not on whether a typical user might think that particular information in the magic box of the telephone is constitutionally protected. From that perspective, automation is irrelevant.

Taken together, *Katz* and *Smith* maintain the balance of power through the shift from physical surveillance to telephone surveillance. The telephone network provides criminals a substitute for traveling out in public and then meeting with conspirators in private, and the *Katz/Smith* line maintains the equilibrium of privacy that existed with the physical meeting for the telephonic equivalent.[198] Under *Katz*, the police need a warrant to go where the most private conversations occur — into the phone lines, the virtual space that substitutes for the home. Under *Smith*, the police can watch the network equivalent of public space to learn who the suspect called and when. The balance of power is preserved.

E. The Status Quo: Physical Entry into the Home, the Use of Undercover Agents, and the Law of Arrests

Although the need for equilibrium-adjustment explains many Fourth Amendment doctrines, the *absence* of that need explains many more. When a particular law enforcement tool or fact pattern is essentially impervious to change, the courts will generally settle on the level of privacy protection offered at Year Zero. In these instances, the stability of the law enforcement practice and of the relevant social facts explains the shape of Fourth Amendment law. The law looks as it does because it looked that way in Year Zero. This section considers three examples. It begins with the special protection for the home, turns next to the lack of Fourth Amendment protection against use of undercover agents, and concludes with the law of arrests.

1. The Special Protection of the Home. — Fourth Amendment law extends special protection to the home. As one scholar notes, "[h]omes

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on Procedural Fairness and Racial Equality, 1994 U. CHI. LEGAL F. 237, 253–54 (arguing that *Smith* and similar cases "manipulate[d] *Katz* to limit privacy rights" and "severely limit[] . . . personal conduct entitled to Fourth Amendment protection").

[198] I develop this argument in detail in Orin S. Kerr, *Applying the Fourth Amendment to the Internet: A General Approach*, 62 STAN. L. REV. 1005 (2010).

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have achieved iconic status in the modern Fourth Amendment, with judicial rhetoric elevating residential search to the apex of protection."[199] "[P]hysical entry of the home is the chief evil against which the wording of the Fourth Amendment is directed," the Supreme Court has claimed.[200] As a result, the "Fourth Amendment has drawn a firm line at the entrance to the house."[201] For the most part, it's not the case that the Fourth Amendment provides more protection to homes than it does to other places. Rather, rights in the home are the most certain. While courts may struggle to apply the Fourth Amendment to cars, workplaces, hotel rooms, or parking garages, courts speak confidently about Fourth Amendment protection in the home. If the Fourth Amendment applies anywhere, it is inside the home.

What explains the special treatment of the home in Fourth Amendment law? The answer is equilibrium-adjustment — or perhaps more accurately, a *lack* of equilibrium-adjustment. The basic role and layout of a home remain the same today as it did in Year Zero. Four walls, a roof, a door, and some windows. A bed to sleep in, and space to store things. These were basic building blocks of a home in Year Zero, and they remain so today. Further, there is no sign that these basic elements are likely to change in the future. Homes may be a bit larger today than in Year Zero. Plumbing has improved. And rents certainly have gone up. But for all purposes relevant to committing and investigating crime, the home remains the same today as it was in Year Zero.

The home is the one space protected by the Fourth Amendment that seems impervious to changing technology, changing social practice, and changing law. This enables judges to speak with unusual confidence about Fourth Amendment protections inside homes. Because the Fourth Amendment clearly protected homes in Year Zero, and because there is no prospect of equilibrium-adjustment, the Fourth Amendment clearly protects homes today.

2. *Undercover Agents.* — Imagine the police send an undercover agent into your home. You think the agent is a friend, so you let him in. He starts asking questions, and you tell him all sorts of private things on the assumption that he is a friend who will maintain your confidence. The agent then returns to police headquarters and tells

199 Stephanie M. Stern, *The Inviolate Home: Housing Exceptionalism in the Fourth Amendment*, 95 CORNELL L. REV. 905, 912 (2010).

200 United States v. U.S. Dist. Court, 407 U.S. 297, 313 (1972). Perhaps inaccurately. The Amendment refers to protecting the "right of the people to be secure in their persons, houses, papers, and effects." U.S. CONST. amend. IV. The text of the Amendment is no more focused on rights in the home than on rights in persons, papers, and effects.

201 Kirk v. Louisiana, 536 U.S. 635, 638 (2002) (quoting Payton v. New York, 445 U.S. 573, 590 (1980)).

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everyone there about what you said. According to the Supreme Court, this scenario raises no Fourth Amendment issues at all. To be sure, the Fourth Amendment requires a warrant for the police to enter your home in a way that violates your reasonable expectation of privacy.[202] But according to the Supreme Court, use of undercover agents does not violate reasonable expectations of privacy. Under the so-called third-party doctrine, "the Fourth Amendment does not prohibit the obtaining of information revealed to a third party and conveyed by him to Government authorities, even if the information is revealed on the assumption that it will be used only for a limited purpose and the confidence placed in the third party will not be betrayed."[203]

But why? Why does the Fourth Amendment require a warrant for the government to secretly enter a home but not require a warrant for an undercover agent to enter a home with permission? The best answer is found in the rules of Year Zero. Undercover investigations are as old as police work, but they were not regulated by the common law of searches and seizures. In eighteenth-century England, private citizens were empowered to investigate crimes in exchange for money; prisoners were offered pardons to become informers.[204] When the idea of professional police surfaced both in England and in the United States in the mid-nineteenth century, working with informers and criminals was common.[205] Their use was not thought to raise Fourth Amendment issues. By 1928, the Supreme Court could look back on the history of criminal investigations and state: "The history of criminal trials shows numerous cases of prosecutions of oathbound conspiracies for murder, robbery, and other crimes, where officers of the law have disguised themselves and joined the organizations, taken the oaths and given themselves every appearance of active members engaged in the promotion of crime, for the purpose of securing evidence."[206] Indeed, several of the early criminal procedure cases to reach the Supreme Court involved secret agents. At that time, neither arguments to the Justices nor the Justices' opinions suggested that use of secret agents was a Fourth Amendment search or seizure.[207]

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[202] *See* Smith v. Maryland, 442 U.S. 735, 740 (1979).

[203] United States v. Miller, 425 U.S. 435, 443 (1976) (citations omitted).

[204] GARY T. MARX, UNDERCOVER: POLICE SURVEILLANCE IN AMERICA 19 (1988).

[205] *Id.* at 22, 24.

[206] Olmstead v. United States, 277 U.S. 438, 468 (1928).

[207] In *Gouled v. United States*, 255 U.S. 298 (1921), a business acquaintance of a criminal suspect pretended to pay a social visit at the suspect's office when he in fact was intending to search the office for evidence. Eleven years later, in *Sorrells v. United States*, 287 U.S. 435 (1932), an undercover Prohibition agent looking for alcohol gained entrance to a suspect's home by posing as a tourist. Although these cases involved secret agents, they did not argue that listening to private conversations as a secret agent was a search or seizure.

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The first challenge to the use of secret agents came in a 1952 case, *On Lee v. United States*,[208] that concerned use of an undercover informant in an opium conspiracy. The defendant, who was recorded selling opium from his store, complained that the informant's conduct violated the Fourth Amendment because it was the equivalent of secretly entering the store to record what went on inside.[209] Justice Jackson scoffed at the argument in his majority opinion. The defendant merely "was talking confidentially and indiscreetly with one he trusted."[210] It was silly to think such facts could violate the Fourth Amendment, Justice Jackson concluded: "It would be a dubious service to the genuine liberties protected by the Fourth Amendment to make them bedfellows with spurious liberties improvised by farfetched analogies."[211]

The novelty of On Lee's claim explains Justice Jackson's harshness. Undercover agents had been used since, well, Year Zero. No one had thought to regulate them under the Fourth Amendment. Nothing had changed in their use since Year Zero, either. In each case, the agent was a law enforcement officer or informant who interacted with suspects and recorded what he heard. Perhaps the only technological difference was that modern-day informants could make recordings rather than simply remember what they heard. But once this threshold was crossed,[212] undercover agents were undercover agents. There was little in the way of technology or social practice that could change in how the government used them. As with the case of Fourth Amendment protection of the home, use of an undercover agent was not something that varied over time. No equilibrium-adjustment was necessary, and therefore the rule of Year Zero prevailed.

This was true even when the Supreme Court purported to change the doctrinal test. After *Katz* in 1967, the Supreme Court revisited a case nearly identical to *On Lee* in *United States v. White*.[213] In theory, a lot had changed since *On Lee*. The Supreme Court's doctrine for what counts as a "search" had been replaced by the "reasonable expectation of privacy" test. But the Court simply read the "reasonable expectation of privacy" test to reaffirm *On Lee*: "We see no indication in *Katz*," Justice White wrote, "that the Court meant to disturb that understanding of the Fourth Amendment or to disturb the result reached in the *On Lee* case, nor are we now inclined to overturn this view of

[208] 343 U.S. 747 (1952).
[209] *Id.* at 750–51.
[210] *Id.* at 753.
[211] *Id.* at 754.
[212] *See, e.g.*, United States v. White, 401 U.S. 745 (1971).
[213] 401 U.S. 745.

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the Fourth Amendment."[214] Absent any need for equilibrium-adjustment, a majority of the Court interpreted the new test to preserve the traditional rule.

3. The Law of Arrests. — Now consider how the Fourth Amendment applies to arrests. In *United States v. Watson*,[215] decided in 1976, the Supreme Court considered the Fourth Amendment standard for making an arrest for a felony offense. Justice White's majority opinion looked to the common law for the answer: "the ancient common-law rule," Justice White recognized, was "that a peace officer was permitted to arrest without a warrant for a . . . felony . . . if there was reasonable ground for making the arrest."[216] Justice White cited a range of common law sources for this, including Blackstone's *Commentaries*, Hale's *Pleas of the Crown*, and English cases from 1780 and 1827.[217] Justice White then noted that the common law rule had been adopted in the States in the nineteenth century, focusing heavily on an 1850 decision by the Supreme Judicial Court of Massachusetts.[218]

Moving to the present, Justice White explained that "[t]he balance struck by the common law in generally authorizing felony arrests on probable cause, but without a warrant, has survived substantially intact."[219] Federal statutes widely adopted the common law standard,[220] as did almost all state arrest codes.[221] Justice White recognized that there might be reasons an officer would want to obtain an arrest warrant even if not strictly required. "But we decline to transform this judicial preference into a constitutional rule," he concluded, "when the judgment of the Nation and Congress has for so long been to authorize warrantless public arrests on probable cause."[222] Thus, the Court held that the Fourth Amendment today embraces the common law rule that arrests for felonies can be made without warrants.[223]

At first blush, *Watson* is a puzzling decision. It is a heavily originalist decision handed down in 1976, and it doesn't bother to mention the principles-layer doctrinal question of when an arrest is a constitutionally reasonable seizure. But however surprising *Watson* is metho-

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[214] *Id.* at 750 (plurality opinion) (footnote omitted). Although Justice White's opinion was only for a four-Justice plurality, Justice Black's continued adherence to his rejection of *Katz*, *id.* at 754, in concurrence made Justice White's plurality opinion controlling.

[215] 423 U.S. 411 (1976).

[216] *Id.* at 418.

[217] *See id.* at 418–19 (citing Beckwith v. Philby, (1827) 108 Eng. Rep. 585 (K.B.); Samuel v. Payne, (1780) 99 Eng. Rep. 230 (K.B.); BLACKSTONE, *supra* note 30, at *292; HALE, *supra* note 30, at *72–74).

[218] *See id.* at 419–20 (citing Rohan v. Sawin, 59 Mass. (5 Cush.) 281 (1850)).

[219] *Id.* at 421.

[220] *See id.* at 420–21.

[221] *See id.* at 421–22.

[222] *Id.* at 423.

[223] *See id.* at 424.

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dologically, the decision is explained by equilibrium-adjustment. The basic facts of an arrest by a government agent for a felony are the same today as they were at common law: the officer grabs the suspect and takes him into custody. While there have been changes to what counts as a felony, and certainly to what happens *after* the arrest, the basic balance between liberty and public safety raised by taking a suspect into custody is the same today as it was at common law. As a result, the law of arrests has remained the same, and the Fourth Amendment rule today matches the common law rule. Once again, the absence of change in technology or practice explains the Supreme Court's adoption of the common law rule as the modern Fourth Amendment standard.

F. Defeating Countermeasures: Open Fields and Aerial Surveillance

The police and criminals sometimes engage in a cat-and-mouse game using Fourth Amendment rules. Criminals will try countermeasures to evade law enforcement surveillance permitted by existing law. Government agents will then try new practices to thwart the countermeasures. Each side tries to outfox the other. How should the Fourth Amendment apply? Should Fourth Amendment rules permit the countermeasures on an even playing field, or should the Fourth Amendment be interpreted to allow one side an advantage?

This dynamic has arisen in Fourth Amendment litigation over "open fields" surveillance. The open fields doctrine draws the line between open spaces not protected by the Fourth Amendment and the entrance into the home that has full protection.[224] To make the protection of the home meaningful, the law has long recognized a space around the home, the so-called curtilage, that acts as a sort of buffer around the home and is treated as part of the home.[225] The police, then, are permitted to enter onto any "open fields" around the home without triggering the Fourth Amendment,[226] but need a warrant or an exception to the warrant requirement to enter the "curtilage" surrounding the home.[227]

The open fields doctrine raises the problem of countermeasures because criminals can build fences and walls to keep the police away. First, they can erect fences that force the police to break through or cross over them. Second, they can build walls that the police cannot cross or even see through. When this happens, the police may take to

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[224] *See, e.g.*, United States v. Dunn, 480 U.S. 294, 300 (1987).
[225] *See id.*
[226] *See id.* (citing Hester v. United States, 265 U.S. 57, 59 (1924)).
[227] *See* California v. Ciraolo, 476 U.S. 207, 212–13 (1986).

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the air and conduct aerial surveillance from a helicopter or airplane. When do these police steps count as a "search"?

The Supreme Court's cases on open fields and aerial surveillance answer how the Fourth Amendment applies to each scenario. Crossing fences generally is not a search,[228] and aerial surveillance is broadly permitted so long as the government does not enter private airspace.[229] These results can seem perplexing at first. Because the phrase "reasonable expectation of privacy" seems on its face to focus on what kind of privacy a reasonable person would expect, you might assume that a fence would make an expectation of privacy reasonable. But the Court's rules make sense from the standpoint of equilibrium-adjustment. They ensure that fence-building countermeasures by criminals do not alter the preexisting measure of Fourth Amendment protection.

1. Crossing over Fences. — United States v. Dunn[230] considered the significance of fences to Fourth Amendment protection. Dunn manufactured narcotics in two barns on a remote ranch. A private road to the ranch was gated and locked, and the ranch was encircled by a perimeter fence.[231] The perimeter fence was supplemented by several interior fences made of multiple strands of barbed wire. The barns themselves were protected by another wooden fence and a locked, waist-high gate.[232] Federal agents suspected that the barns were used for manufacturing narcotics, so agents crossed over the perimeter fence, an interior fence, and another barbed wire fence to take a closer look at the inside of the barn without actually entering the barn.[233] Agents later used what they saw to obtain a warrant to search the ranch for evidence.

Dunn required the Supreme Court to apply the open fields/curtilage distinction to the officers' crossing over multiple fences. The Court concluded that crossing over the fences and observing the barns from close-up did not cross the line from open fields to curtilage for four reasons, all of which were considered "factors" in a multifactor test.[234] First, the barn was sixty yards from the home instead of next to it.[235] Second, while the agents had to pass over several fences to view the barn, the last internal fence around the home did not also encompass the barn.[236] Third, the barn was not being used as a

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[228] *See Dunn*, 480 U.S. at 304.
[229] *See Ciraolo*, 476 U.S. at 207.
[230] 480 U.S. 294.
[231] *Id.* at 297.
[232] *Id.*
[233] *Id.* at 297–98.
[234] *See id.* at 301.
[235] *Id.* at 302.
[236] *Id.*

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home.[237] And fourth, the fences did not actually block observation of the barn because individuals could see through the fences to the other side of the enclosed areas.[238] Considering the factors together, the Court concluded that the police had not conducted a "search."[239]

2. *Aerial Surveillance.* — The Supreme Court addressed the rules for aerial surveillance in *California v. Ciraolo*.[240] The police received an anonymous tip that Ciraolo was growing marijuana in his backyard. The police paid a visit to Ciraolo's property, but when they arrived they found they could not see the backyard. Ciraolo had constructed a six-foot outer fence and a ten-foot inner fence that completely blocked the officers' views.[241] The officers responded by taking to the air: they borrowed an airplane, flew over Ciraolo's property, and looked down at his backyard. From public airspace, about 1,000 feet in the air, the agents could see tall marijuana plants growing in a plot in Ciraolo's backyard.[242] The police then used that surveillance to obtain a warrant and seize the marijuana.[243]

The Supreme Court held that the surveillance was constitutional even assuming that the plants in the backyard were within the curtilage.[244] As the Court saw it, the Fourth Amendment did not require the police "to shield their eyes when passing by a home on public thoroughfares."[245] The fact that the "thoroughfares" were 1,000 feet in the air rather than at ground level was essentially irrelevant, in the Court's view: the plants were exposed to the public in the air.[246] In dissent, Justice Powell complained that the Court's holding ignored the fact that people use fences to keep other people out: "[A]s a matter of common experience," he wrote, "many people build fences around their residential areas. . . . [P]eople do not 'knowingly expos[e]' their residential yards 'to the public' merely by failing to build barriers that prevent aerial surveillance."[247] But the majority disagreed. The surveillance was not a search because it had occurred with the naked eye from public space.[248]

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[237] *Id.* at 302–03.
[238] *Id.* at 303.
[239] *Id.* at 305.
[240] 476 U.S. 207 (1986). There are actually three cases on aerial surveillance: *Ciraolo*; *Florida v. Riley*, 488 U.S. 445 (1989); and *Dow Chemical v. United States*, 476 U.S. 227 (1986). In my view, *Ciraolo* is the most instructive of the three decisions.
[241] *Ciraolo*, 476 U.S at 209.
[242] *Id.*
[243] *Id.* at 209–10.
[244] *Id.* at 213–14.
[245] *Id.* at 213.
[246] *Id.* at 213–14.
[247] *Id.* at 224 (Powell, J., dissenting) (quoting *id.* at 213 (majority opinion) (alteration in original) (quoting Katz v. United States, 389 U.S. 347, 351 (1967))).
[248] *Id.* at 215 (majority opinion).

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3. Defeating Countermeasures and Equilibrium-Adjustment. — Although *Dunn* and *Ciraolo* seem odd from the standpoint of social norms — people don't normally expect outsiders to hop over barbed wire fences or use planes to watch them from above — both decisions make sense from the standpoint of equilibrium-adjustment. At Year Zero, government agents had broad power to walk on open fields.[249] Fences and walls threaten that power. Under *Dunn*'s four-part test, however, fences do not themselves create a reasonable expectation of privacy. Fences are not entirely irrelevant: the type of fence is relevant to the fourth factor, and the location of the fence can be relevant to the second factor. But criminals cannot easily change the line between protected "curtilage" and unprotected "open fields" by raising a fence.

Similarly, *Ciraolo* ensures that criminals cannot simply erect walls to thwart police surveillance. If a criminal raises a wall, the police can go over it by taking to the air. The cost of doing so may be a practical barrier, of course. But the law blocks efforts to change Fourth Amendment protection by building walls. By not letting fences and walls control Fourth Amendment protection, the Court's precedents roughly maintain the level of police power despite the use of countermeasures. As with the automobile exception, the precise level of adjustment is unclear in part because the historical baseline is uncertain: there is a paucity of historical sources involving fences just like there is a paucity of historical sources involving horses and buggies.[250] But the broader point is that the Supreme Court's approach to the use of fences by suspects matches the Court's response to suspects' use of cars and other technologies to facilitate crime. The Court adjusts the level of protection to try to maintain the status quo level of police power.

III. THE CASE FOR EQUILIBRIUM-ADJUSTMENT IN FOURTH AMENDMENT LAW

This Part offers a normative case for equilibrium-adjustment in Fourth Amendment law. Equilibrium-adjustment will not always provide an answer, but it does frame the debate. That debate allows the Fourth Amendment to retain its role despite frequent changes in the facts of police investigations. Fourth Amendment rules are under constant attack from technological change and morphing social practice. No matter what normative theory an individual adopts for interpreting the Constitution, that theory must account for change through equilibrium-adjustment so the Fourth Amendment can maintain its role over time. This constant dynamic makes equilibrium-adjustment

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[249] *See* BLACKSTONE, *supra* note 30, at *223, *225, *226.
[250] *See* section II.B.2, pp. 507–08.

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an essential tool for interpreting the Fourth Amendment. Courts should expressly recognize and adopt equilibrium-adjustment as an important tool for Fourth Amendment interpretation.

The dynamic of equilibrium-adjustment also has several additional advantages. First, it restores the notion of fidelity in Fourth Amendment decisionmaking. Second, its wide appeal furthers the coherence of Fourth Amendment decisionmaking by providing a common way to address new factual settings. Third, equilibrium-adjustment ameliorates the paucity of empirical evidence in Fourth Amendment rulemaking by harnessing the fruits of our shared experience with the rules of Year Zero. Fourth, equilibrium-adjustment maximizes legal stability by ensuring that legal rules change only when circumstances change — and then only in relatively predictable ways.

The Part concludes by discussing the conditions of successful equilibrium-adjustment. Equilibrium-adjustment requires judicial delay: a new practice or technology must evolve and reach a point of relative stability before courts can know how to restore the status quo ante. Intervention too early raises a high risk of error. Courts cannot know in which direction to adjust, how far to adjust, and what category to adjust when the problem is new. These lessons have a normative implication for Supreme Court practice. The Supreme Court should generally decline to review how the Fourth Amendment applies to a new technology until the technology, its use, and its societal implications have stabilized.

A. The Critical Role of Equilibrium-Adjustment in Fourth Amendment Law

Most theories of the Fourth Amendment are premised on some sort of proper balance of police power. To a utilitarian, the Fourth Amendment requires a balance of police power to maximize social welfare. On one hand, the police must have enough power to enforce the law to achieve the utilitarian and retributive benefits of the criminal law.[251] On the other hand, the police must not have so much power that they can inflict substantial civil liberties harms on innocent individuals or in the investigation of minor crimes.[252] Achieving a balance of police power ensures the law can be enforced reasonably well while limiting the costs of abuses.[253] Textualists reach the same result be-

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[251] *See generally* HERBERT L. PACKER, THE LIMITS OF THE CRIMINAL SANCTION (1968) (detailing the utilitarian and retributive rationales for punishment).

[252] *See, e.g.*, Arnold H. Loewy, *The Fourth Amendment as a Device for Protecting the Innocent*, 81 MICH. L. REV. 1229, 1257–63 (1983) (emphasizing the costs to civil liberties of Fourth Amendment rules that permit the investigation of innocent individuals).

[253] *Cf.* Stuntz, *supra* note 148, at 847 ("Reasonableness . . . requires a balance of gains and losses, benefits and costs.").

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cause searches and seizures must be "reasonable," which naturally invites a cost/benefit balance.[254] Originalists generally reach the same result on different grounds. To most originalists, the Fourth Amendment requires a balance because a particular balance of police power existed at the time the Fourth Amendment was adopted.[255] These theories, and others,[256] require the Fourth Amendment to achieve a balance of police power. The theories can disagree on exactly what the balance should be and how it should be reached, but they agree that the Fourth Amendment should maintain a balance of police power over time.

Equilibrium-adjustment provides the mechanism by which the Fourth Amendment maintains its balance over time. New technologies and new social practices are constant features of the criminal investigations that Fourth Amendment law regulates. The police constantly devise new ways to investigate crimes, and criminals who commit crimes are constantly figuring out new ways to avoid being caught. Each side always wants a new advantage over the other. Further, new criminal laws are regularly enacted, together with new prosecution priorities. Social practices continually evolve. Change is a constant: more than with most other areas of constitutional law, the facts of criminal investigations regulated by Fourth Amendment law are surprisingly dynamic.

The dynamic nature of criminal investigations destabilizes Fourth Amendment doctrine. Changing technology often expands government power under preexisting rules: if a new technology permits the government to access information that it previously could not access without a warrant, using techniques not regulated under preexisting rules that predate that technology, the effect will be that the Fourth Amendment matters less and less over time.[257] Alternatively, the significance of the Fourth Amendment can change in the opposite way. Changing technology and social practice can transform Fourth

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[254] *See, e.g.*, Wyoming v. Houghton, 526 U.S. 295, 299–300 (1999) (Scalia, J.) ("Where [an originalist] inquiry yields no answer, we must evaluate the search or seizure under traditional standards of reasonableness by assessing, on the one hand, the degree to which it intrudes upon an individual's privacy and, on the other, the degree to which it is needed for the promotion of legitimate governmental interests.").

[255] *See, e.g.*, Kyllo v. United States, 533 U.S. 27, 34 (2001) (Scalia, J.) (interpreting the Fourth Amendment to "assure[] preservation of that degree of privacy against government that existed when the Fourth Amendment was adopted"); Wilson v. Arkansas, 514 U.S. 927, 931 (1995) (Thomas, J.) ("In evaluating the scope of [the Fourth Amendment], we have looked to the traditional protections against unreasonable searches and seizures afforded by the common law at the time of the framing.").

[256] *See, e.g.*, CHRISTOPHER SLOBOGIN, PRIVACY AT RISK 21–47 (2007) (offering a restructuring of Fourth Amendment doctrine based on "the proportionality principle" of balancing law enforcement and privacy interests).

[257] *See* section I.B, pp. 485–87.

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Amendment protection into a severe restriction that limits government power more than did the original Fourth Amendment in Year Zero. Changing practices often limit government power under preexisting rules: if a new technology hides evidence that the government previously could access easily, the effect will be that the Fourth Amendment becomes an excessive restriction that blocks government action more than it did before.[258]

Equilibrium-adjustment avoids these results by ensuring that the role of Fourth Amendment protection remains stable over time. It doesn't always answer how the Fourth Amendment should apply. But it does reframe the debate. It permits case-by-case adjustments to the scope of government power in response to changes in technology and social practice that otherwise could render the Fourth Amendment irrelevant, an excessive limitation on police practices, or both. Many areas of constitutional law face this problem in some respect.[259] The Supreme Court must apply the First Amendment to a wide range of communications technologies from cable[260] to broadcast[261] to the Internet.[262] It must apply the Fifth Amendment right against self-incrimination that originally applied to testimony at trial to new technologies, such as blood tests, lie detector tests, and neuroimaging.[263] The problem of new technology clearly is not just a Fourth Amendment issue. It arises whenever technologies change legally operative facts so that old rules apply in new ways or may not apply at all. At the same time, the problem of technological and social change is particularly acute in Fourth Amendment law. The problem of technological change is an occasional topic in many areas; in Fourth Amendment law, it is omnipresent.

The surprising aspect of equilibrium-adjustment is that its influence on the evolution of Fourth Amendment doctrine has gone largely unrecognized. The work of Bill Stuntz has hinted at it. Stuntz's work on why the Supreme Court rejected the *Boyd* rule for subpoenas captures an important example of how equilibrium-adjustment functions.[264] Individual cases like *Kyllo* expressly interpret the Fourth Amendment with an eye to maintaining protection across technological change.[265] But the broader dynamic of equilibrium-adjustment has remained largely unappreciated. The pieces haven't been assembled

[258] *See* section I.B, pp. 485–87.

[259] *See generally* Lawrence Lessig, *Fidelity in Translation*, 71 TEX. L. REV. 1165 (1993).

[260] *See, e.g.*, United States v. Playboy Entm't Grp., Inc., 529 U.S. 803, 803 (2000).

[261] *See, e.g.*, Turner Broad. Sys., Inc. v. FCC, 520 U.S. 180, 180 (1997).

[262] *See, e.g.*, Reno v. ACLU, 521 U.S. 844, 844 (1997).

[263] *See generally* Sean Kevin Thompson, *A Brave New World of Interrogation Jurisprudence?*, 33 AM. J.L. & MED. 341 (2007).

[264] *See* Stuntz, *supra* note 148, at 858–61.

[265] *See generally supra* pp. 496–99.

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in a way that shows the connection among cases on thermal imaging devices, automobiles, aerial surveillance, telephones, pen registers, open fields, the protection of the home, undercover agents, the mere evidence rule, and the law of arrests. Taken together, these cases show the recurring role of equilibrium-adjustment in Fourth Amendment law.

Why has equilibrium-adjustment remained hidden? I suspect the main reason is the difficulty of recognizing the technology problems of past generations. There is considerable Fourth Amendment scholarship on new technologies, but it tends to focus on new technologies of the present day.[266] By contrast, yesterday's cases of new technologies are not often thought of as raising the same problem. For example, we treat automobile cases as *sui generis* cases about cars rather than as cases about technology.[267] As a result, scholars have not seen the connection among these doctrines. Once the dynamic is understood, however, it becomes clear that equilibrium-adjustment is a recurring dynamic in Fourth Amendment law.

B. Equilibrium-Adjustment and Fourth Amendment Scholarship

A recognition of equilibrium-adjustment also has important implications for Fourth Amendment scholarship. That scholarship typically emphasizes two basic critiques. First, many scholars criticize the principles layer of Fourth Amendment doctrine.[268] Fourth Amendment law is a mess, the scholars say, and the problem is that the open-ended principles layer has it wrong. Many articles argue that the Supreme Court should replace the "reasonable expectation of privacy" test with a new test that better captures what the Fourth Amendment is *really* about.[269] If the Supreme Court would replace the principles level of doctrine with better principles — better, at least according to that scholar — then Fourth Amendment doctrine would be improved.[270]

Second, many scholars criticize how the Supreme Court applies the principles layer of doctrine to reach the application layer of doctrine. Even accepting existing principles, these scholars contend, the Su-

[266] *See, e.g.*, Elizabeth E. Joh, *Reclaiming "Abandoned" DNA: The Fourth Amendment and Genetic Privacy*, 100 NW. U. L. REV. 857 (2006); Orin S. Kerr, *Searches and Seizures in a Digital World*, 119 HARV. L. REV. 531 (2005).

[267] *See, e.g.*, LaFave, *supra* note 66.

[268] *See, e.g.*, Jed Rubenfeld, *The End of Privacy*, 61 STAN. L. REV. 101, 104 (2008) (arguing that "Fourth Amendment law should stop trying to protect privacy" and should instead be read to protect "a right of *security*"); Daniel J. Solove, *Fourth Amendment Pragmatism*, 51 B.C. L. REV. 1511, 1514–15 (2010) (joining with those who argue that the Supreme Court should "jettison" the *Katz* test and arguing that it should be replaced with a "pragmatic" inquiry into what government practices should be regulated and to what extent).

[269] *See, e.g.*, sources cited *supra* note 268.

[270] *See, e.g.*, sources cited *supra* note 268.

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preme Court has not applied the principles layer faithfully or accurately.[271] Thus, many dozens of articles fault the Supreme Court for misapplying the "reasonable expectation of privacy test,"[272] or for balancing interests incorrectly.[273] From this perspective, the problem with the Fourth Amendment is that the Supreme Court doesn't apply its own doctrine very well: a proper application of the principles layer should have led to different results at the application layer.

These plentiful writings largely ignore the Fourth Amendment as part of the Constitution. Fourth Amendment law is not seen as part of constitutional law, and Fourth Amendment interpretation is not seen as an exercise in constitutional interpretation. The widespread sense among Fourth Amendment scholars is that a theory of the Fourth Amendment based on a coherent principle of constitutional fidelity simply "do[es] not reflect the realities of the world in which we have come to live."[274]

Equilibrium-adjustment offers a new approach to the Fourth Amendment that both reveals the limits of existing scholarship and points to a new way to recapture the role of constitutional fidelity in Fourth Amendment law. Equilibrium-adjustment reveals the limits of existing scholarship by showing how the principles layer of Fourth Amendment doctrine is controlled by equilibrium-adjustment. While scholars frequently criticize the principles layer or its application on its own terms, a more fruitful approach would be to focus on the role of equilibrium-adjustment. It provides the meta-doctrine that guides the outcomes of the open-ended tests of the principles layer. Although scholars may differ on how to adjust accurately, the goal of adjustment

[271] *See, e.g.*, LAFAVE, *supra* note 42, § 2.7(c), at 747 (arguing that the Supreme Court's application of the "reasonable expectation of privacy" test has been "dead wrong"); Christopher Slobogin & Joseph E. Schumacher, *Reasonable Expectations of Privacy and Autonomy in Fourth Amendment Cases: An Empirical Look at "Understandings Recognized and Permitted by Society,"* 42 DUKE L.J. 727, 732 (1993) (arguing that some Supreme Court cases "do not reflect societal understandings" of when an expectation of privacy is "reasonable," and that "some of the Court's conclusions [about what expectations of privacy are reasonable] may be well off the mark").

[272] Listing all of the examples would make this an extremely long footnote. A few examples include: Brian J. Serr, *Great Expectations of Privacy: A New Model for Fourth Amendment Protection*, 73 MINN. L. REV. 583, 642 (1989) ("[T]he Court's current fourth amendment analysis is based on simplistic and logically incorrect theories of public exposure."); Daniel J. Solove, *Digital Dossiers and the Dissipation of Fourth Amendment Privacy*, 75 S. CAL. L. REV. 1083, 1085–87 (2002) (arguing that the Supreme Court has misapplied the "reasonable expectation of privacy" test because its cases are premised on a misunderstanding of the concept of privacy); sources cited *supra* note 268.

[273] *See, e.g.*, SLOBOGIN, *supra* note 256, at 17 (arguing for a restructuring of Fourth Amendment law on the ground that current Supreme Court doctrine has balanced privacy and security improperly by not fully appreciating privacy interests in many settings).

[274] *E.g.*, Carol S. Steiker, *Second Thoughts About First Principles*, 107 HARV. L. REV. 820, 856 (1994). Professor Akhil Amar is a notable exception. *See* AMAR, *supra* note 3, at 1–2.

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provides a shared standard that can guide discussions of the doctrinal evolution of Fourth Amendment law.

Equilibrium-adjustment also offers a new approach to constitutional fidelity, and one that has a broad and often intuitive appeal. On one hand, it is true to the original Fourth Amendment where new technologies and social practices have not changed the impact of prior rules. In those cases, it adheres to the rules of Year Zero — the original Fourth Amendment as understood at the time of the Framing. On the other hand, the method of equilibrium-adjustment attempts to deal with the recurring problem of technological change by trying to restore that original level of protection. As technology changes, equilibrium-adjustment offers what Professor Lawrence Lessig has called a "translation" of the Constitution across time.[275] Indeed, equilibrium-adjustment is a specific sort of translation: it translates levels of police power to maintain the balance of power established by the Fourth Amendment in Year Zero. It therefore remains true to the original Fourth Amendment amidst changing facts.[276]

That does not mean the appeal of equilibrium-adjustment is limited to adherents of Lessig's translation theory. One of the intriguing aspects of equilibrium-adjustment is its appeal to a wide range of interpretive theories. Almost everyone finds something to like in equilibrium-adjustment. As *Kyllo* demonstrates, an originalist such as Justice Scalia can see equilibrium-adjustment as an originalist method that ensures that the privacy protection at the time of the Framing is not eroded by technology.[277] Equilibrium-adjustment is true to the original Fourth Amendment because it maintains the scope of protection offered at Year Zero over time.[278] Further, to a pragmatist, equilibrium-adjustment offers a sensible way to update Fourth Amendment doctrine in light of changing conditions.[279]

The same goes for several other theories of interpretation. To a living constitutionalist, for example, equilibrium-adjustment can be a method of updating the Constitution over time. The approach enables the Fourth Amendment to evolve in response to a changing world.[280]

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[275] Lessig, *supra* note 259, at 1173.

[276] *Cf. id.* at 1238–40.

[277] *Cf.* Kyllo v. United States, 533 U.S. 27, 34 (2001) (attempting to "assure[] preservation of that degree of privacy against government that existed when the Fourth Amendment was adopted").

[278] So, for example, Justice Scalia has argued that the purpose of reasonableness determinations in Fourth Amendment law "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).

[279] *Cf. id.*

[280] *Cf.* GOODWIN LIU, PAMELA S. KARLAN & CHRISTOPHER H. SCHROEDER, KEEPING FAITH WITH THE CONSTITUTION 29 (2010) (approving of *Katz* on the ground that "changed

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Finally, to a textualist, equilibrium-adjustment offers a faithful interpretation of the Fourth Amendment's command that searches and seizures must be "reasonable." As the impact of a given rule changes, so does the rule's reasonableness: equilibrium-adjustment therefore tracks the textual command of the Fourth Amendment while retaining flexibility.[281]

In short, a surprisingly wide range of interpretive traditions can embrace equilibrium-adjustment. Not all will. But the theory has broad appeal within the range of interpretive approaches likely to be shared by individuals nominated and confirmed to the Supreme Court. The singular exception is Justice Black. Justice Black's approach to textualism led him to reject *Katz*.[282] In his *Katz* dissent, Justice Black argued that the Fourth Amendment should not apply to wiretapping or eavesdropping at all because conversations are not among the "persons, houses, papers, and effects" that the text of the Fourth Amendment protects.[283] According to Justice Black, extending the Fourth Amendment to the telephone would require "rewrit[ing] the Amendment in order 'to bring it into harmony with the times,'" which he saw as an illegitimate task.[284] Other than Justice Black, however, no Justice has rejected the basic approach of equilibrium-adjustment.

The wide embrace of equilibrium-adjustment by judges does not mean that all judges (or all scholars, for that matter) agree about the proper role of history in Fourth Amendment law. The role of history is a frequent topic of debate in cases and law reviews alike.[285] For example, Justice Scalia believes that common law rules largely settle how the Fourth Amendment should apply.[286] Other Justices see the common law rules as merely a starting point.[287] But the theory of equilibrium-adjustment suggests that these debates are more about form than substance. Despite their protestations about how much or how little they care about common law rules, Justices from a wide range of

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interpretation in response to changed circumstances can be an act of fidelity to the Constitution. The text of the document must be construed to have the 'capacity of adaptation to a changing world'; otherwise, '[r]ights declared in words may be lost in reality.'" (alteration in original)) (quoting Olmstead v. United States, 277 U.S. 438, 472–73 (1928) (Brandeis, J., dissenting)).

[281] *Cf. Dickerson*, 508 U.S. at 380 (Scalia, J., concurring).

[282] Katz v. United States, 389 U.S. 347, 365–66 (1967) (Black, J., dissenting).

[283] *Id.* at 365 (quoting U.S. CONST. amend. IV) (internal quotation mark omitted).

[284] *Id.* at 364.

[285] *See, e.g.*, David A. Sklansky, *The Fourth Amendment and Common Law*, 100 COLUM. L. REV. 1739, 1741–43 (2000). *See generally* Thomas K. Clancy, *The Role of History*, 7 OHIO ST. J. CRIM. L. 811 (2010) (reviewing WILLIAM J. CUDDIHY, THE FOURTH AMENDMENT: ORIGINS AND ORIGINAL MEANING, 602–1791 (2009)).

[286] *See Dickerson,* 508 U.S. at 380 (Scalia, J., concurring).

[287] *See, e.g.*, United States v. Watson, 423 U.S. 411, 442 (1976) (Marshall, J., dissenting) ("While we can learn from the common law, the ancient rule does not provide a simple answer directly transferable to our system.").

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interpretive traditions are interpreting the Fourth Amendment with the same goal of trying to maintain the role of the Fourth Amendment over time. Different Justices can disagree about the proper level of generality to use to achieve that goal. But the differences among the various Justices are relatively minor.

C. The Coherence of Group Decisionmaking

Equilibrium-adjustment also facilitates the coherence of group decisionmaking. Supreme Court decisions are made by committee. Nine Justices vote, and five Justices are needed to create a majority opinion. As Professors Lewis Kornhauser and Lawrence Sager have explained, the coherence of group decisionmaking depends in significant part on the extent to which the different Justices agree on basic principles.[288] Doctrinal coherence — coherence in the sense of forming a consistent vision across cases[289] — generally requires a shared "conception of the appropriate basis for decision."[290] The more judges on a multijudge court share a common approach, the more the collective product of their group decisions will tend to form a coherent body of decisional law over time.[291]

Shared reliance on equilibrium-adjustment facilitates coherent group decisionmaking over time. The Justices won't always agree on how or when to engage in equilibrium-adjustment. But agreement on the *need* for equilibrium-adjustment narrows the range of potential disagreement in ways that increase the chances that group decisionmaking will be coherent. By replacing disparate theories of interpretation with a shared approach, equilibrium-adjustment increases the chances that the case-by-case decisionmaking of Fourth Amendment law will create a reasonably coherent regulatory framework.

Kyllo offers a helpful illustration. *Kyllo* asked whether use of a thermal imaging device aimed at a home violates a "reasonable expectation of privacy."[292] However, the "reasonable expectation of privacy"

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[288] *See* Lewis A. Kornhauser & Lawrence G. Sager, *Unpacking the Court*, 96 YALE L.J. 82, 111–15 (1986); *see also* Frank H. Easterbrook, *Ways of Criticizing the Court*, 95 HARV. L. REV. 802, 823–31 (1982) (applying Arrow's Impossibility Theorem to Supreme Court voting); Dimitri Landa & Jeffrey R. Lax, *Legal Doctrine on Collegial Courts*, 71 J. POL. 946, 961 (2009).

[289] As Kornhauser and Sager explain:

> Coherence is a quality of conceptual unity. Coherence does not require that a system's premises be correct, but it does demand that they form or reflect a unitary vision of that portion of the world modeled by the system. A perfectly coherent legal system would comprise normative elements derivable from a relatively limited number of non-contradictory premises that are reasonably general in form and that join in a recognizable conception of social policy.

Kornhauser & Sager, *supra* note 288, at 105.

[290] *Id.* at 111.

[291] *See id.*; Easterbrook, *supra* note 288, at 826–27.

[292] 533 U.S. 27, 31 (2001).

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test is widely considered one of the great mysteries of Fourth Amendment law[293]: the Justices have repeatedly refused to say what makes an expectation of privacy reasonable,[294] and opinions differ on even the basic question of whether the inquiry is descriptive or normative.[295] To make matters worse, not all Justices agree that it should be applied. Justice Scalia has been a fierce critic of the doctrine, which he sees as circular double-talk that simply empowers judges to do whatever they want.[296] If *Kyllo* had been decided without reference to equilibrium-adjustment, it is difficult to see how the Justices could have coalesced around a majority opinion. Although broad acceptance of equilibrium-adjustment did not decide the *Kyllo* case, it did narrow the options to two basic possibilities. Five Justices took "the long view" and saw the technologies coming in the future, triggering the need for equilibrium-adjustment,[297] while four Justices looked only at the case before them and did not see a need for adjustment based on those limited facts.[298] The common goal of equilibrium-adjustment greatly narrowed the range of possible approaches in resolving a very difficult case.

The narrowing of conceptual alternatives produced by equilibrium-adjustment leads to a more coherent body of law. To see why, imagine the Justices did not engage in equilibrium-adjustment. Imagine, instead, that the Justices had distinct methodologies for applying the Fourth Amendment to new facts. Let's say that three Justices decide new Fourth Amendment cases by always applying the most factually analogous precedent. Two other Justices always apply the highest level of protection to new facts but apply stare decisis elsewhere. Two additional Justices always apply the lowest level of protection to new facts but apply stare decisis elsewhere. Finally, the remaining two Justices ignore stare decisis and apply whatever level of protection strikes them as being needed to balance law enforcement and privacy rights in that specific case, regardless of whether the facts are new.

Under these assumptions, playing out the basic scenarios of Fourth Amendment protection from Year Zero onward results in a body of law that seems entirely chaotic and internally inconsistent. If the Court were to encounter such cases for the first time, it likely would reject the automobile exception by a vote of 5–4. It would require a

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[293] *See* Kerr, *supra* note 43, at 505.

[294] *See id.* at 504 n.2 (citing cases).

[295] *See id.* at 504–26.

[296] *See* Minnesota v. Carter, 525 U.S. 83, 91 (1998) (Scalia, J., concurring) (describing the reasonable expectation of privacy test as a "fuzzy standard," *id.*, that is "notoriously unhelpful," *id.* at 97); *see also Kyllo*, 533 U.S. at 34.

[297] *Kyllo*, 533 U.S. at 40.

[298] *See id*. at 41–42 (Stevens, J., dissenting).

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warrant for car searches, with the narrowest rationale being that cars are protected under the default rules of searches of homes.[299] The same Court would likely retain the mere evidence rule by a vote of 7–2, on the ground that it was already covered by existing law.[300] On the other hand, that Court would likely reject any Fourth Amendment restrictions on the use of GPS devices or thermal imaging devices in public spaces by a vote of 7–2.[301] The resulting doctrine would follow no particular pattern. It would lack any broader consistent theme reflecting a shared vision of what the Fourth Amendment should protect. Each case would advance a different rationale, giving the government dramatic power in some contexts and greatly restricting that power in others.

The Justices' use of equilibrium-adjustment limits how often such incoherence occurs. Of course, Fourth Amendment caselaw is still decided on a case-by-case basis. As a result, understanding the unified framework requires revisiting the beginnings of each doctrine to recognize how adjustment has occurred over time. But the doctrine as a whole remains substantially more coherent than it otherwise would be thanks to the wide appeal of equilibrium-adjustment.

D. Overcoming Lack of Empirical Knowledge

Equilibrium-adjustment also provides a limited means to overcome the paucity of empirical evidence in Fourth Amendment rulemaking. A dramatic mismatch exists between the difficulty and complexity of the problem of regulating police investigations and the empirical evidence judges have about what rules work or what the impact of a possible new rule might be. Justices watch TV like the rest of us. They read newspapers. They may also have a slight sense of the development of the law from the small subset of cases they review. But the Justices must make Fourth Amendment rules in a surprisingly poor information environment. They have little way to know whether estimates of the impact of new rules are correct.

Equilibrium-adjustment provides a limited mechanism to ameliorate this problem. The dynamic is a simple and intuitive one. Experience with preexisting Fourth Amendment rules provides an established data point. The differences between the old facts and new facts

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[299] The five-Justice majority would likely consist of the three Justices who always apply the nearest default rule plus the two Justices who always apply the highest protection for new facts.

[300] The seven Justices in the majority would likely consist of the three Justices who apply the nearest default rule and the four Justices who apply stare decisis to old facts.

[301] The seven Justices in the majority would likely consist of the three Justices who apply the nearest default rule, the two Justices who apply the lower protection to new facts, and the two Justices who engage in balancing. The two Justices who always apply the highest privacy protection to new facts would dissent.

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form a reference point for changes from the old rules to the new ones. That reference point informs courts as to the likely impact of new rules in new factual environments. In this way, equilibrium-adjustment can harness the lessons of shared experience with past rules to help judges identify the likely impact of new Fourth Amendment rules.

We often use this kind of reasoning in daily life. A familiar example demonstrates the point. Imagine you are comfortably wearing a light jacket outside on a fall day. You go inside for a few hours, and you learn while inside that the temperature outside has dropped fifteen degrees as night has fallen. Now consider how you would choose the right jacket to wear for the evening out. Do you reason from first principles of thermodynamics? Do you set up heat transfer equations and calculate the thickness of jacket needed to ensure your comfort given the new ambient temperature and the rate at which your body generates heat?

Of course not. You will use your experience with the light jacket at the warmer temperature. Based on that experience, you know that you'll be cold without a jacket. You also will know you'll probably be chilly with the light jacket used before. The reference point of the light jacket will lead you to select a heavier jacket for the new lower temperature. This judgment reflects an intuitive equilibrium-adjustment.[302] During the day, you established a level of protection from the elements that maintained comfortable warmth. The facts changed as the temperature dropped. To maintain the same warmth you had before, you will increase the thickness of your jacket to account for the new lower temperature.

The same principle applies to assessing what rules are needed to regulate the police. It is difficult to ponder in the abstract what kind of protection is needed to regulate various law enforcement techniques. Any effort to derive an answer from first principles would quickly get bogged down in unanswerable empirical questions about law enforcement resources, the kinds of crimes the police are investigating, the rates at which the techniques are successful, the possibilities of abuse by the police, and the like. Using the status quo ante as a reference point harnesses our experience with the established rules. It provides

[302] As Daniel Kahneman & Amos Tversky note:

> Our perceptual apparatus is attuned to the evaluation of changes or differences rather than to the evaluation of absolute magnitudes. When we respond to attributes such as brightness, loudness, or temperature, the past and present context of experience defines an adaptation level, or reference point, and stimuli are perceived in relation to this reference point. Thus, an object at a given temperature may be experienced as hot or cold to the touch depending on the temperature to which one has adapted. The same principle applies to non-sensory attributes such as health, prestige, and wealth.

Daniel Kahneman & Amos Tversky, *Prospect Theory: An Analysis of Decision Under Risk*, 47 ECONOMETRICA 263, 277 (1979) (footnote omitted).

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a baseline for which we have information to estimate the impact of a new rule to regulate a new set of facts. Adjustments may not be accurate, to be sure. Cognitive biases can complicate making accurate adjustments, much as they complicate common law decisionmaking generally.[303] But equilibrium-adjustment at least provides a framework to identify when adjustments are necessary and in what direction an adjustment should occur, even if it provides little to assist judges in assessing how much of an adjustment is required to restore the status quo ante.

E. Equilibrium-Adjustment and Legal Stability

A third benefit of equilibrium-adjustment is that it maximizes legal stability. The stability of Fourth Amendment law is desirable because it enhances the clarity of the law, which in turn enables the police to act as effective agents within the permitted zone of power carved out by the courts.[304] When Fourth Amendment law is governed by equilibrium-adjustment, the law remains surprisingly stable: legal rules change only when circumstances change. Indeed, the Fourth Amendment rules that govern arrests, undercover agents, and searches of the home show how stable the rules can be.[305] When circumstances do not change, the Fourth Amendment rules can remain constant over centuries, not just decades. Further, when the Supreme Court alters Fourth Amendment doctrine to account for equilibrium-adjustment, the law is likely to remain stable once the adjustment has occurred so long as the facts stop changing.

This dynamic explains an interesting jurisprudential puzzle about current Fourth Amendment doctrine. The Supreme Court's adoption

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[303] *See, e.g.*, Amos Tversky & Daniel Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, 185 SCIENCE 1124, 1128–29 (1974). Professor Frederick Schauer has explored how such cognitive biases impact common law decisionmaking generally. *See* Frederick Schauer, *Do Cases Make Bad Law?*, 73 U. CHI. L. REV. 883, 893–99 (2006) (noting the role of cognitive biases in case-by-case rulemaking, and in particular "the capacity of vivid and nearby events to distort rather than to enrich decisions," *id.* at 898, designed to regulate a wide range of cases). The role of cognitive biases is complicated in the context of equilibrium-adjustment. To the extent anchoring effects play a role, there are several anchors rather than one: the traditional known set of facts, the facts before the court, and the traditional legal rule. Adjusting requires both evaluating how far the facts on the ground have deviated from the traditional set of facts as well as how far the legal rule needs to change to respond to that factual change. Further, the cognitive bias of loss aversion suggests that different Justices will experience the need for adjustment differently: Justices more focused on police power likely will tend to see a restriction of police power as a loss rather than a gain, while Justices more focused on privacy rights will tend to see that same restriction as a gain rather than a loss. While significant, on the whole, these biases are likely akin to those found more generally in case-by-case rulemaking. They do not appear to be more or less significant in the context of equilibrium-adjustment. *See generally* Emily Sherwin, *Judges as Rulemakers*, 73 U. CHI. L. REV. 919 (2006).

[304] *See* New York v. Belton, 453 U.S. 454, 458 (1981).

[305] *See* section II.E, pp. 517–22.

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of the "reasonable expectation of privacy" test has had a surprisingly minor impact on the Fourth Amendment's application-layer rules. When the Supreme Court adopted the "reasonable expectation of privacy" test, it was expected that the new test would have a major impact on how the Fourth Amendment applied.[306] Instead, the Supreme Court ended up reaffirming many pre-*Katz* doctrines under the new test: time and again, the interpretation of the new test just happened to match prior law.

For example, *White* reaffirmed *On Lee*,[307] which had held that the police did not need a warrant to go undercover and wear a "wire" that transmitted the defendant's conversations to a police observation post.[308] *Rakas v. Illinois*[309] reaffirmed *Wong Sun v. United States*,[310] which had held that Fourth Amendment rights are personal and cannot be asserted vicariously.[311] *Oliver v. United States*[312] reaffirmed *Hester v. United States*,[313] retaining the "open fields" doctrine.[314] *California v. Hodari D.*[315] reaffirmed the common law rules governing when a person is "seized" under the Fourth Amendment.[316] These results are surprising if you see the "reasonable expectation of privacy" test as a robust and meaningful inquiry. But they are not surprising if you see the principles-layer doctrine as an open-ended standard that allows courts to incorporate equilibrium-adjustment. So long as no changes occur, there should be no need for adjustment and the application layer of doctrine should remain the same.

Of course, Fourth Amendment law could remain reasonably stable absent equilibrium-adjustment simply on the basis of stare decisis. Under the principles of stare decisis, the Supreme Court ordinarily relies on past precedents: overruling occurs, but remains relatively rare. But equilibrium-adjustment enhances stability beyond stare decisis by ensuring that rules stay constant once articulated absent some major change. The law remains stable not simply because of the reliance interests built up on prior law, but also because absence of change means no adjustment is required.

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[306] *See* Desist v. United States, 394 U.S. 244, 248 (1969) ("However clearly our holding in *Katz* may have been foreshadowed, it was a clear break with the past . . . .").

[307] United States v. White, 401 U.S. 745, 750 (1971) (plurality opinion) ("We see no indication in *Katz* that the Court meant to disturb . . . the result reached in the *On Lee* case, nor are we now inclined to overturn this view of the Fourth Amendment." (footnote omitted)).

[308] On Lee v. United States, 343 U.S. 747, 751–55 (1952).

[309] 439 U.S. 128 (1978).

[310] 371 U.S. 471 (1963).

[311] *Id.* at 492.

[312] 466 U.S. 170 (1984).

[313] 265 U.S. 57 (1924).

[314] *Oliver*, 466 U.S. at 177.

[315] 499 U.S. 621 (1991).

[316] *Id.* at 623–27.

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F. Judicial Delay as a Limitation on Equilibrium-Adjustment

Having articulated several benefits of equilibrium-adjustment, this Article turns to the important question of when courts should review a case to consider whether adjustment is necessary. The challenge is straightforward. If courts are to adjust accurately, they need to know how much difference a change in technology or practices has made. This introduces the difficult variable of time. If a court intervenes too soon, it risks error: it might wrongly assess the need for adjustment because either the technology hasn't evolved to a reasonably stable state or else social practices relating to the use of the technology continue to evolve.[317]

A ready example of this dynamic is the Supreme Court's reversal of *Olmstead* in *Katz*. *Olmstead* was the very first case to reach the federal courts involving wiretapping by federal agents. In 1928, when the Court decided the case, telephones were relatively new.[318] The Justices could not know how their use would evolve. And indeed, the use of the telephone in communications continued to change throughout the 1930s, 1940s, and 1950s. By 1967, when the Court decided *Katz*, the role of the telephone in communication had changed remarkably since 1928 — triggering a reversal of *Olmstead* in *Katz*. *Olmstead* is thus an example of Supreme Court error when the Court acts before a technology and its social implications reach maturity.

Courts can respond to this risk in two basic ways. First, courts can try to delay deciding how the Fourth Amendment applies to a new technology until the technology and its use become stable. The *Olmstead* litigation was the first Fourth Amendment challenge to wiretapping; the Supreme Court could have waited for a later case, using the "passive virtues" to avoid a definitive ruling so early in the development of the telephone.[319] Alternatively, courts can step in earlier, but recognize that their decisions must remain tentative while the technology and its implications remain in flux. In *Olmstead*, for example, the Supreme Court could have recognized that its decision might need revisiting as the role of the telephone changed.

The merits of these different approaches arose recently in *City of Ontario v. Quon*.[320] *Quon* reviewed a Ninth Circuit decision ruling in favor of a SWAT officer whose workplace text messages sent over a city-provided pager system were seen by his employer as part of a

[317] *Cf.* Schauer, *supra* note 303, at 915–16 (giving several benefits of delaying judicial decision-making).

[318] *See* FISCHER, *supra* note 168, at 49–50 (documenting the early history of telephone technology in America).

[319] *See* ALEXANDER M. BICKEL, THE LEAST DANGEROUS BRANCH 111–98 (1962) (characterizing the Court's waiting to decide issues until they are "ripe" as one of "the passive virtues").

[320] 130 S. Ct. 2619 (2010).

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workplace investigation.[321] The Ninth Circuit had broadly ruled that text messages were protected under the Fourth Amendment,[322] and had then ruled that this protection was not overcome in the specific facts of the case by the warnings Quon had received about not having privacy in his workplace texts.[323] The Supreme Court granted certiorari and reversed only on the narrow grounds of the latter argument, leaving the issue of whether there are Fourth Amendment rights in pager messages generally for another day.[324] Justice Kennedy's majority opinion expressly articulated a preference to avoid ruling on how the Fourth Amendment applies to changing technology that nicely reflects the challenges of equilibrium-adjustment:

> The Court must proceed with care when considering the whole concept of privacy expectations in communications made on electronic equipment owned by a government employer. The judiciary risks error by elaborating too fully on the Fourth Amendment implications of emerging technology before its role in society has become clear.[325]

"Rapid changes in the dynamics of communication and information transmission," Justice Kennedy continued, "are evident not just in the technology itself but in what society accepts as proper behavior."[326] Given the uncertainty, "[p]rudence counsels caution before the facts in the instant case are used to establish far-reaching premises."[327]

In a concurring opinion, Justice Scalia scoffed at the idea of proceeding cautiously:

> Applying the Fourth Amendment to new technologies may sometimes be difficult, but when it is necessary to decide a case we have no choice. The Court's implication that where electronic privacy is concerned we should decide less than we otherwise would (that is, less than the principle of law necessary to resolve the case and guide private action) — or that we should hedge our bets by concocting case-specific standards or issuing opaque opinions — is in my view indefensible. The-times-they-are-a-changin' is a feeble excuse for disregard of duty.[328]

This is snappy writing from Justice Scalia. Notably, however, Justice Scalia's majority opinion in *Kyllo* may be an example of just the kind of opinion he decried as "indefensible" in *Quon*.[329] Recall that *Kyllo* announced a warrant requirement for use of a thermal imaging

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[321] *Id.* at 2624–26.
[322] Quon v. Arch Wireless Operating Co., 529 F.3d 892, 904 (9th Cir. 2008).
[323] *Id.* at 907–08.
[324] *Quon*, 130 S. Ct. at 2632–33.
[325] *Id.* at 2629 (citations omitted).
[326] *Id.*
[327] *Id.*
[328] *Id.* at 2635 (Scalia, J., concurring in part and concurring in the judgment) (citation omitted).
[329] *See* Kyllo v. United States, 533 U.S. 27 (2001).

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device directed at a home.[330] *Kyllo* also added an important caveat: using such a device was a search "at least where (as here) the technology in question is not in general public use."[331] Under *Kyllo*, then, public use of a technology likely impacts whether its use is a search: as the general public starts to use thermal imagers, their use by the police at some point stops being a search. Justice Scalia declined to say exactly when this point would be reached. Instead, he simply noted that "we can quite confidently say that thermal imaging is not 'routine'" as of the date of the *Kyllo* decision.[332] In the decade since *Kyllo,* however, thermal imaging technologies have become routinely used by the public as non-contact thermometers that sell for about $50.[333] As a result, it is not entirely clear today whether *Kyllo* still requires a warrant for the use of thermal imaging devices.[334]

Quon and *Kyllo* suggest two basic approaches courts can take when technology is in flux. They can try to avoid rulings on the merits, as in *Quon*, or else they can announce rules at an early stage that are implicitly or explicitly temporary, as in *Kyllo*. In my view, delaying a ruling is the better path for two reasons. First, delay is more likely to invite legislative privacy protections in the interim. When technology is in flux, legislative protections have considerable advantages over judicial ones for reasons I have developed at length elsewhere.[335] The absence of judicial regulation is considerably more likely to invite statutory protections that are more nimble and flexible amidst rapid change.[336] In contrast, even tentative judicial rulings are likely to keep Congress away. Congress is less likely to attempt a statutory solution if Congress concludes that the courts have addressed the problem already.

Second, judicial treatment of a Fourth Amendment issue early in the development of the technology is likely to delay final resolution of the question later on. Note the timing of the shift from *Olmstead* to *Katz*. *Olmstead* was handed down in 1928, and *Katz* in 1967. That means it took thirty-nine years — a very long time — for the Court to change course. Although we can never know with confidence, it seems

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330 *Id.* at 34–35.

331 *Id.* at 34.

332 *Id.* at 40 n.6.

333 *See* Orin Kerr, *Can the Police Now Use Thermal Imaging Devices Without a Warrant? A Reexamination of* Kyllo *in Light of the Widespread Use of Infrared Temperature Sensors*, THE VOLOKH CONSPIRACY (Jan. 4, 2010, 12:33 PM), http://volokh.com/2010/01/04/can-the-police-now-use-thermal-imaging-devices-without-a-warrant-a-reexamination-of-kyllo-in-light-of-the-widespread-use-of-infrared-temperature-sensors.

334 *See id.* ("[T]here's at least a plausible case that the police can now use thermal imaging devices — or at least the simple-point infrared devices — without a warrant.").

335 Orin S. Kerr, *The Fourth Amendment and New Technologies: Constitutional Myths and the Case for Caution*, 102 MICH. L. REV. 801, 857–82 (2004).

336 *See id.* at 871.

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reasonable to believe that the Supreme Court would have reached the correct result of *Katz* considerably earlier than 1967 if it had not first erred in *Olmstead* back in 1928. The misstep was corrected, but it took almost forty years to do it.

Further, the Supreme Court's recent decision in *Davis v. United States*[337] may now make overruling an erroneous Fourth Amendment decision particularly difficult. Under *Davis*, the good faith exception to the exclusionary rule now applies when a defendant successfully persuades a court to overturn precedent in favor of expanded Fourth Amendment rights.[338] Defendants cannot win by challenging precedent, and as a result may now be much less likely to try. Although the Court left open the possibility that it might craft an exception to this holding for successful Supreme Court challenges in the future,[339] *Davis* suggests that a wrong turn by the Court in an area of developing technology may now be difficult to correct: if the Court rules early on that there is no protection for a new technology, defendants may be much less likely to challenge that precedent given the low (if not zero) chances of relief.

For these reasons, judicial delay is likely to be the wiser course. It will tend to resolve the issues more quickly, and with greater interim assistance from legislative privacy protection, than will efforts to address the Fourth Amendment issues early on while the risk of error is high.

CONCLUSION

This Article suggests a new way to think about the development of Fourth Amendment law. By focusing attention on technological and social change as an engine of Fourth Amendment development, it has viewed existing law like a tree with many rings. Just as each ring adds to the tree, growing the tree one ring at a time, so Fourth Amendment law grows case-by-case, with each ring growing in response to some new technology or change in practice. By looking at how the Fourth Amendment develops, the Article has revealed a body of law that is constantly struggling to maintain its role over time.

Today's law reflects the accumulated efforts of equilibrium-maintenance over many decades. The dynamic is easy to miss. Just as an observer looks at an adult tree and sees a tall edifice that seems fixed, so have scholars looked at existing law and seen a large structure

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[337] 131 S. Ct. 2419 (2011).

[338] *Id.* at 2429 ("Evidence obtained during a search conducted in reasonable reliance on binding precedent is not subject to the exclusionary rule.").

[339] *Id.* at 2434 ("[I]n a future case, we could, if necessary, recognize a limited exception to the good-faith exception for a defendant who obtains a judgment over-ruling one of our Fourth Amendment precedents.").

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that seems like a fixed mass that is hard to explain. Scholars have focused on the principles layer of doctrine: they have sought to derive the meaning of the Fourth Amendment from its grand tests such as the "reasonable expectation of privacy" test and the balancing of "reasonableness." Recognizing how the law develops, one ring at a time, in response to new facts that alter police power, reveals a different dynamic. So viewed, the law becomes surprisingly coherent in a way scholars have missed.

The continuing judicial effort to maintain Fourth Amendment balance is in part a testament to the timeless nature of the prohibition of unreasonable searches and seizures. Unlike most areas of constitutional law doctrine, the basic dynamic of Fourth Amendment law resembles a zero-sum game. Search and seizure law must balance enforcement of criminal prohibitions with the need to preserve civil liberties. Decisions about where to draw the lines invariably move along a continuum from less police power to more police power. Adjustments guided by historical norms provide a rough baseline for striking the balance that has maintained its appeal today. The Supreme Court continues to try to maintain the balance of the Fourth Amendment in a world with changing facts, and equilibrium-adjustment has provided the critical tool to achieve that vital goal.

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