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Fourth Amendment Anxiety

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FOURTH AMENDMENT ANXIETY

Kiel Brennan-Marquez* & Stephen E. Henderson**

ABSTRACT

In *Birchfield v. North Dakota* (2016), the Supreme Court broke new Fourth Amendment ground by establishing that law enforcement's collection of information can be cause for "anxiety," meriting constitutional protection, even if subsequent uses of the information are tightly restricted. This change is significant. While the Court has long recognized the reality that police cannot always be trusted to follow constitutional rules, *Birchfield* changes how that concern is implemented in Fourth Amendment law, and importantly, in a manner that acknowledges the new realities of data-driven policing.

Beyond offering a careful reading of *Birchfield*, this Article has two goals. First, we compare *Birchfield* to two fixtures of Fourth Amendment law that likewise stem from distrust of state power: the warrant requirement and the exclusionary rule. Like traditional warrants, "*Birchfield* warrants" have a prophylactic quality; they enable ex ante judicial supervision. But *Birchfield* warrants also go further than traditional warrants; they aim to anticipate—and preempt—disregard for the rules later on, not just to safeguard particularity in the immediate search or seizure. In this sense, *Birchfield* warrants do ex ante what the exclusionary rule does ex post: deter abuse.

Second, we connect *Birchfield*'s "anti-anxiety" logic to two other areas of constitutional criminal procedure. The first are settings—speedy trial and double jeopardy cases, most notably—where the Court has recognized that *potential* uses of state power can provoke anxiety and, accordingly, require constitutional accommodation. We refer to this as the "Sword of Damocles" problem. The second area is *Miranda*, which, like *Birchfield*, deals with a problem of "closed-door" policing. In both *Miranda* and *Birchfield*, protective rules are necessary because law enforcement decisions happen in the dark—in *Miranda*, due to the realities of traditional custodial interrogation, and in *Birchfield*, because collected information simply disappears into a government vault.

Birchfield is, in effect, the Court's first "big data collection" case, having doctrinal implications for the seizure and use of any information-rich evidence,

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** Judge Haskell A. Holloman Professor of Law, The University of Oklahoma. We thank Jennifer Daskal, Susan Freiwald, David Gray, Orin Kerr, Rebecca Lipman, Paul Ohm, Brian Owsley, Richard Re, the organizers and participants at Katz *at 50* and the Privacy Law Scholars Conference, and, for research assistance, Justin Ashlock.

including support for Fourth Amendment use restrictions. In this sense, *Birchfield* is best understood as continuous with other recent jurisprudence—most notably, *United States v. Jones* and *Riley v. California*—in which the Supreme Court has revitalized the ideal of judicial supervision in the age of data-driven policing.

> *I see the sword of Damocles is right above your head.*—Lou Reed, *Sword of Damocles* (Sire Records 1992)

INTRODUCTION

The police, courts like to note, are engaged in the "competitive enterprise of ferreting out crime."[1] So it comes as no surprise that officers, in the absence of restrictive rules, would too often be overzealous in the pursuit of criminals at the expense of constitutional rights. But what if judges fear that police will not abide by those rules? For example, what if police are required to consult with a neutral magistrate, but judges worry that police will skip that step?[2] How should that concern affect substantive constitutional rules?

In Fourth Amendment law, the traditional answer is simple: it should not. Doctrinal analysis should proceed on the assumption that rules will be followed; the threat of ex post penalties—some mix of civil liability, suppression, administrative discipline, and theoretically even prosecution—suffices to deter bad behavior.[3] In other words, because Fourth Amendment violations meet with established remedies, and because those remedies are (more or less) effective, the *risk* of even willful violations down the line should not affect the Amendment's substantive requirements.[4]

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1. Johnson v. United States, 333 U.S. 10, 14 (1948). A Westlaw search indicates the phrase has been repeated in over one thousand judicial opinions.

2. *See id.* at 13–14 ("The point of the Fourth Amendment, which often is not grasped by zealous officers, is not that it denies law enforcement the support of the usual inferences which reasonable men draw from evidence. Its protection consists in requiring that those inferences be drawn by a neutral and detached magistrate instead of being judged by the officer engaged in the often competitive enterprise of ferreting out crime.").

3. *See infra* Part II.A.

4. It is worth noting that, practically speaking, such ex post remedies are often limited. For example, even where courts are concerned that officers might be lying to them—and routinely—they typically feel they have no recourse because they cannot be sure in which cases those lies are occurring. *See, e.g.*, People v. Jones, 584 N.Y.S.2d 267 (App. Term 1992) (rejecting a grant of suppression based upon disbelief of "dropsy" testimony); Ruiz v. State, 50 So. 3d 1229 (Fla. Dist. Ct. App. 2011) (similarly rejecting suppression despite uncertainty about alleged consent). As explained by the *Ruiz* court:

> "Dropsy" in 1970 has evolved into "consent" in 2010. The more things change the more they stay the same . . . . On the pages of the record, the story told by the police is unbelievable . . . . Yet, as an appellate court, we must defer to the express finding of credibility made by the trial court . . . . The [trial] judge may have punctiliously performed the duties of his office in this case, but, when considering the large number of "consent" cases that have come before us, the finding of "consent" in so many curious circumstances is a cause for concern.

Ruiz, 50 So. 3d at 1233. In other words, as a criminal defendant you sometimes lose (no suppression) even when you win (convince an appellate court there is a lot of testilying going on). Thus, for this and for many other

Last term, in *Birchfield v. North Dakota*, the Supreme Court called this status quo into question.[5] The issue in *Birchfield* was whether police may perform warrantless breathalyzer and blood tests in the context of a DUI arrest.[6] The Court split the difference, concluding that warrantless breathalyzer tests are fair game, while warrantless blood tests are not.[7] Why? Because a blood draw, in addition to being more physically intrusive,

> places in the hands of law enforcement authorities a sample that can be preserved and from which it is possible to extract information beyond a simple [blood alcohol concentration (BAC)] reading. Even if the law enforcement agency is precluded from testing the blood for any purpose other than to measure BAC, the potential remains and may result in anxiety for the person tested.[8]

New paradigms have a way of blossoming from modest origins. We believe the portion of *Birchfield* just quoted—a single, unassuming paragraph, buried in the middle of a thirty-eight page opinion—works a subtle, but crucially important, doctrinal change.[9] In it, we argue, the Court embraced a proposition that has long eluded Fourth Amendment law: that "anxiety" about the misuse of already-collected information can be reasonable, and can merit constitutional accommodation, *even if* the misuse is "precluded" by other legal obstacles. In other words, the risk that police may fail to abide by legal rules at time t_2—in *Birchfield*, the risk that a police officer would test an already-collected blood sample, sans authorization—can, under some circumstances, be a basis for reconfiguring the content of legal rules at t_1. Specifically, it can be a reason to make rules at t_1 more privacy protective.

This is not to say the *Birchfield* move is without precedent—new paradigms rarely are. The framers' discontent with general warrants was on account of the broad potential for abuse they permitted—in other words, our entire system of "special" warrants, meaning particularized warrants, is an ex ante limitation intended to limit abuse.[10] The Supreme Court's 1966 decision in *Miranda v.*

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reasons, we are skeptical that ex post remedies are alone sufficient, as will become clear in the development of our argument.

5. 136 S. Ct. 2160 (2016).

6. *Id.* at 2172–73.

7. *Id.* at 2184.

8. *Id.* at 2178.

9. The opinion runs thirty-eight pages in the Supreme Court's PDF, which translates to twenty-one pages in the Supreme Court Reporter. We recognize there is more than one way to read any sentence, including these by the Court. Regardless, our normative arguments remain. *See infra* Part I.B.

10. *See* James Otis, *Against Writs of Assistance*, Feb. 24, 1761, http://www.nhinet.org/ccs/docs/writs.htm; David Gray, *Fourth Amendment Remedies as Rights: The Warrant Requirement*, 96 B.U. L. REV. 425, 432, 460 (2016) ("The Fourth Amendment does not merely describe a general right of the people to be secure from unreasonable searches and seizures. It also provides that this right 'shall not be violated.' This imperative can only be achieved by constitutional remedies that exert prospective force on government agents."); *see also* Messer-

Arizona established a new Fifth Amendment rule based on the risk—or perhaps the perception—that police were violating already-established law.[11] And in 1990, in *Alabama v. White*, Justice John Paul Stevens, writing for himself and for Justices William Brennan and Thurgood Marshall, argued that the Fourth Amendment was designed to "protect the citizen from the overzealous and unscrupulous officer as well as from those who are conscientious and truthful."[12] But the three Justices were—as they so often were in the Fourth Amendment context—writing in dissent.[13]

Nor is the interplay between collection of information at t_1 and the use of information at t_2 foreign to recent Fourth Amendment jurisprudence. In 2013, in *Maryland v. King*, a majority of the Court rejected a challenge to the collection and databasing of DNA from some felony arrestees, citing statutory protections against subsequent, non-identification testing of the collected DNA.[14] The *King* Court was not yet ready to recognize the anxiety engendered by potential police misuse as necessitating ex ante constraint, but it did acknowledge that the appropriateness of such constraint depends, in part, on the likelihood of invasive use down the line. Furthermore, in 2014, the Court unanimously recognized that modern technologies might call for different Fourth Amendment rules. In refusing to permit the warrantless searching of cell phones incident to arrest, the Court spoke in the strongest of terms about the potential effect that policing of digital data can have

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schmidt v. Millender, 132 S. Ct. 1235, 1253 (2013) (Sotomayor, J., dissenting) (observing that the Fourth Amendment was ratified out of frustration with the "Crown's practice of using general warrants and writs of assistance to search suspected places"); Maryland v. King, 133 S. Ct. 1958, 1980–82 (2013) (Scalia, J., dissenting) (documenting copious authority for the proposition that general warrants were the Fourth Amendment's specific target during the Founding Era); Andresen v. Maryland, 427 U.S. 463, 492 (1976) (explaining that "[g]eneral warrants are especially prohibited by the Fourth Amendment" and that "[t]he problem to be avoided is not that of intrusion per se, but of a general, exploratory rummaging in a person's belongings") (internal citations omitted).

11. 384 U.S. 436 (1966); *see infra* Part III.B.

12. 496 U.S. 325, 333 (1990) (Stevens, J., dissenting). Justice Brennan expressed a similar belief about the Sixth Amendment's right to counsel when writing for the Court in *Maine v. Moulton*, 474 U.S. 159, 180 (1985) ("To allow the admission of evidence obtained from the accused in violation of his Sixth Amendment rights whenever the police assert an alternative, legitimate reason for their surveillance invites abuse by law enforcement personnel in the form of fabricated investigations and risks the evisceration of the Sixth Amendment right . . . .").

13. *White*, 496 U.S. at 333 (1990) (Stevens, J., dissenting) ("Under the Court's holding, every citizen is subject to being seized and questioned by any officer who is prepared to testify that the warrantless stop was based on an anonymous tip predicting whatever conduct the officer just observed.").

14. 133 S. Ct. 1958, 1979–80 (2013). The Court stated:

> And even if non-coding alleles could provide some information, they are not in fact tested for that end . . . . [T]he Act provides statutory protections that guard against further invasion of privacy . . . . No [testing] other than [for] identification is permissible . . . . This Court has noted often that a statutory or regulatory duty to avoid unwarranted disclosures generally allays privacy concerns.

Id. (quoting NASA v. Nelson, 131 S. Ct. 746, 750 (2011)); *see also* Birchfield v. North Dakota, 136 S. Ct. 2160, 2177 (2016) (describing *King*).

on "the privacies of life."[15] In this sense, while *Birchfield's* acknowledgment of anxiety is important and in a sense novel, it also meshes with, and extends, the Court's evolution in thinking about "expectations of privacy" during the fifty years since *Katz v. United States* first explicitly recognized that criterion.[16]

Our argument proceeds in three parts. First, we unpack *Birchfield*. Because the Court's "anxiety" argument presents so modestly—and because the distinction between blood and breathalyzer tests is so intuitive—it can be easy to miss the radicalism of the Court's reasoning. Part I teases out that radicalism.

Second, we distinguish the phenomenon in *Birchfield*—fashioning substantive rules based on concern that police will not follow the law—from the primary way in which police abuse (or its risk) has surfaced in Fourth Amendment jurisprudence: suppression of evidence.[17] The scope of the exclusionary rule depends explicitly on its "deterrent value," an analytic framework that presupposes the possibility of police non-compliance.[18] This differs from the reasoning in *Birchfield*, which does not focus on the efficacy of ex post remedies; instead, it focuses on foreseeable violations that demand proactive accommodation precisely because they are foreseeable. We also distinguish *Birchfield*'s requirements—what we term "*Birchfield* warrants"—from the traditional warrant process. Both are, of course, forms of ex ante restraint on law enforcement. But *Birchfield* warrants differ in that they shift the timing of the warrant process to potentially long before the troubling use and they have the capacity to incorporate substantively unique—and richer—restrictions.

Third, we connect the concern in *Birchfield*—about unauthorized uses of already-collected information—to two other strands of criminal procedure jurisprudence. The first connection is to cases that mostly (but not exclusively) deal with

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15. Riley v. California, 134 S. Ct. 2473, 2495 (2014) (quoting Boyd v. United States, 116 U.S. 616, 630 (1886)).

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

17. Another form of police abuse that has long occupied the Court's attention is the risk that police will comply with the letter of the law while undermining its spirit. This concern is not about rule violation per se; it is about the daylight between formal compliance and substantive vindication. *See, e.g.*, Kentucky v. King, 563 U.S. 452, 473–76 (2011) (Ginsburg, J., dissenting) (worrying that the Court's elimination of any police-created exigency doctrine invites unnecessary police action leading to exigency); Bd. of Educ. v. Earls, 536 U.S. 822, 841–42 (2002) (Breyer, J., concurring) (worrying that a contrary holding would invite public school administrators to manipulate reasonable suspicion to "unfairly target members of unpopular groups or leave those whose behavior is slightly abnormal stigmatized in the minds of others") (internal citation omitted); California v. Hodari D., 499 U.S. 621, 645–47 (1991) (Stevens, J., dissenting) (worrying that police will manipulate the Court's limiting of Fourth Amendment seizures by shows of authority); Illinois v. Gates, 462 U.S. 213, 236 (1983) (worrying that too strenuous an ex post review of warrants would lead police to "resort to warrantless searches, with the hope of relying on consent or some other exception to the Warrant Clause that might develop at the time of the search"); Chimel v. California, 395 U.S. 752, 767 (1969) (worrying that an expansive doctrine of search incident to arrest would permit police to search a home "by the simple expedient of arranging to arrest suspects at home rather than elsewhere"). *Birchfield*, as we read it, goes further than worrying about rule manipulation. Rather, the *Birchfield* Court is worried about active *disregard* for established rules, as distinct from regard for established rules that is designed to work around their intended result.

18. *See infra* Part II.A.

the Speedy Trial and Double Jeopardy Clauses, in which the Court has recognized "anxiety" as the harm motivating constitutional protection. These cases are conceptually similar to *Birchfield*, we argue, insofar as they reflect a degree of realism about the negative psychological effects that can accompany the mere threat that power will be exercised. In other words, *Birchfield* recognizes, in the context of evidence collection, a psychological truism that the Court has previously recognized in the context of discretionary uses of law enforcement power: that the *potential* for governmental interference in one's life can be enough, in some circumstances, to make out a constitutional harm.

The second connection is to *Miranda*. The collection of information-rich evidence in *Birchfield*, like custodial interrogation in *Miranda*, poses a danger of "closed-door" policing, giving rise to reasonable anxiety about what law enforcement is doing behind closed doors. In *Birchfield*, the "closed-door" quality stems from the fact that collected information (there, a blood sample) simply disappears into a government vault, beyond the reach of judicial supervision or public scrutiny—indeed, beyond the reach even of the suspect's scrutiny. In *Miranda*, the "closed-door" quality stems from the inherent opacity of traditional custodial interrogation. Both versions of "closed-door policing" present similar normative concerns. We see two.

First, in both cases, the mechanisms we rely on to spotlight violations—suppression hearings and civil suits—are imperfect, meaning that many violations will go undetected and un-redressed, even assuming the existence of a well-functioning remedial scheme. More fundamentally, activity that takes place behind closed doors is more ripe for abuse. This is not meant as a swipe at police. As Plato long ago posited, *all* of us—civilians and public servants alike—are more inclined to cut corners and disregard rules in the absence of accountability structures, especially if we are convinced of a righteous goal.[19] That's how humans

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19. *See* Plato, *Republic: Book II*, *in* FIVE GREAT DIALOGUES 253, 257 (Louise Ropes Loomis ed., B. Jowett trans., Walter J. Black, Inc. 1942). According to Glaucon, anyone facing no accountability—here via the ring of Gyges providing invisibility—would choose injustice:

> [N]o man can be imagined to be of such an iron nature that he would stand fast in justice. No man would keep his hands off what was not his own when he could safely take what he liked out of the market, or go into houses and lie with anyone at his pleasure, or kill or release from prison whom he would, and in all respects be like a god among men. Then the actions of the just would be as the actions of the unjust; they would both come at last to the same point.

Id. In the words of Justice Harlan considering the effects of cameras in the courtroom: "Essentially, the public-trial guarantee embodies a view of human nature, true as a general rule, that judges, lawyers, witnesses, and jurors will perform their respective functions more responsibly in an open court than in secret proceedings. A fair trial is the objective, and 'public trial' is an institutional safeguard for attaining it." Estes v. Texas, 381 U.S. 532, 588 (1965) (Harlan, J., concurring) (quoted by the Court in *Waller v. Georgia*, 467 U.S. 39, 46 n.4 (1984)); *cf.* Jocelyn Simonson, *The Criminal Court Audience in a Post-Trial World*, 127 HARV. L. REV. 2173, 2197–2200 (2014) (explaining the ways that having a public audience at trial tends to change the psychology—and behavior—of prosecutors and other public officials); United States v. Stevens, 559 U.S. 460, 480 (2010) (explaining that the Constitution "protects against the Government; it does not leave us at the mercy of *noblesse*

work.[20] In this sense, both *Birchfield* and *Miranda* stand for the common-sense proposition, paraphrasing Justice Brandeis, that sunlight tends to disinfect—and by the same token, when activity occurs behind closed doors, concerns about abuse swell.[21]

Ultimately, by acknowledging that anxiety can reasonably result from the government's possession of otherwise-private information—even if the extraction and further use of that information require discrete legal authorization—*Birchfield* lays important groundwork for collection-focused constitutional challenges to come, particularly in respect of information-rich digital evidence like hard drives. In this sense, *Birchfield* is continuous with other recent cases, such as *United States v. Jones*[22] and *Riley v. California*,[23] in which technological change has inspired the Supreme Court to revitalize certain areas of Fourth Amendment doctrine. *Jones* concerned the preliminary question of which investigative activities qualify as searches, while *Riley* addressed which searches require warrants. *Birchfield*, by contrast, concerns *when* a warrant is required—at which point in the process is input from a neutral magistrate or judge needed to safeguard Fourth Amendment rights? If anything, however, these distinctions only reinforce the point: the Court has shown a clear desire to reinvigorate the ideal of judicial supervision at all points in the sequence of Fourth Amendment analysis. Rightly so, in our view: criminal procedure has always been about limiting state power, and in the age of data-driven policing, that requires a willingness to reconsider twentieth-century implementations.

I. THE RADICALISM OF *BIRCHFIELD V. NORTH DAKOTA*

Consider a thought experiment—or rather, twin thought experiments.

> Case one: Last week, your friend Lyra was pulled over and arrested on suspicion of driving under the influence. Now, Lyra is anxious that police will search her apartment. You reassure her as follows: "For the police to do that, they'd either need to get a warrant or satisfy a few carefully limited exceptions to the warrant requirement. The police can't just go around breaking down doors without a reason. And if they did, homeowners could file lawsuits

oblige. We would not uphold an unconstitutional statute merely because the Government promised to use it responsibly.").

20. For example, a recent study found that patient mortality rates drop when hospitals are subject to unannounced accreditation checks—in other words, when doctors and nurses realize they are subject to outside monitoring. Michael L. Barnett et al., *Patient Mortality During Unannounced Accreditation Surveys at US Hospitals*, JAMA INTERNAL MED. (Mar. 20, 2017), http://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2610103; *see also infra* notes 50–52.

21. *See* Louis Brandeis, *What Publicity Can Do*, HARPER'S WEEKLY, Dec. 20, 1913 ("Publicity is justly commended as a remedy for social and industrial diseases. Sunlight is said to be the best of disinfectants; electric light the most efficient policeman.").

22. 565 U.S. 400 (2012).

23. 134 S. Ct. 2473 (2014).

against them, and no police officer wants that." But Lyra is unconvinced. "I understand that the law theoretically regulates police conduct," she says, "but I'm worried they'll just violate the rules—for example, by breaking into my house surreptitiously when I'm not home. You know, waiting in an unmarked van until I leave. And there won't be anything I, or anyone else, can do."

Case two: Last week, your friend Lyra was pulled over and arrested on suspicion of driving under the influence, and the arresting officer—claiming authority under the search incident to arrest doctrine—took her to a local hospital for a blood draw (based on probable cause, but without a warrant). Now, Lyra is anxious about the police having her blood sample on file; specifically, she's worried about the sample being analyzed, down the line, for information *other than* blood alcohol content, notwithstanding the limited purpose of initial collection. You reassure her as follows: "For the police to do that, they'd either need to get a warrant or satisfy a few carefully limited exceptions to the warrant requirement. The police can't just go around searching blood samples without a reason. If they did, people could file lawsuits against them, and no police officer wants that."[24] But, once again, Lyra is unconvinced. "Sure," she says, "there's a bunch of legal rules. But I'm worried police just violate the rules—for example, by testing my blood without anyone knowing. Just grab it from the evidence room, test it, and put it back. And there won't be anything I, or anyone else, can do."

In Case One, Lyra sounds paranoid. Not because searches of homes never occur—they routinely do, including (though much more rarely) surreptitious ones[25]—but because we have a working legal regime in place to deter illegal searches of homes in the first instance and to redress illegal searches when they happen nonetheless. Furthermore, searches of homes tend to attract notice, either by the homeowner who is present; by the absent homeowner who notices forced entry, a triggered alarm, or alterations therein; or by neighbors or bystanders. And beyond legal remedies, other structures of accountability operate in the background. Officers that casually break into homes would likely face penalties—

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24. Although the Supreme Court has not yet had occasion to consider the matter, lower courts and commentators increasingly consider, for example, the forensic testing of a hard drive or the chemical testing of a gathered substance (e.g., saliva) to constitute a unique Fourth Amendment event. *See, e.g.*, United States v. Ganias, 755 F.3d 125, 137–40 (2014) (so holding for a second search of a hard drive), *rev'd en banc* 824 F.3d 199 (2d Cir. 2016); United States v. Davis, 690 F.3d 226, 246 (4th Cir. 2012) (so holding for the testing of a bloodstain on clothing); United States v. Hulscher, No. 4:16-CR-40070-01–KES, 2017 WL 1294452, at *7 (D.S.D. Feb. 10, 2017) (so holding for a second agency looking through the results of a search of a cell phone); Elizabeth E. Joh, *Reclaiming "Abandoned" DNA: The Fourth Amendment and Genetic Privacy*, 100 NW. U. L. REV. 857 (2006) (arguing for Fourth Amendment restraints on DNA testing); *cf.* United States v. Jacobsen, 466 U.S. 109, 123 (1984) (holding a field test for cocaine did not qualify as a search only because it disclosed solely contraband). Moreover, while we strongly believe this warrant requirement *should* be the rule, our purposes here require no such claim: the *Birchfield* Court was interested in anxiety that such existing rules would be violated, meaning the Court was assuming such existing rules as a best case scenario.

25. *See, e.g.*, ACLU v. U.S. Dep't of Justice, 265 F. Supp. 2d 20, 23–24 (D.D.C. 2003) (discussing authorization for "sneak-and-peak" warrants in the USA PATRIOT Act).

formal and informal—within their departments, and invite public scrutiny in the form of journalism and the threat of political mobilization. Time immemorial, a person's home has been her castle, and Americans and their courts respond accordingly.[26]

But what about Case Two? Does Lyra's anxiety about police testing her blood sample without authorization sound paranoid? No—at least not to us and, as of last term, not to the Supreme Court.[27] In *Birchfield v. North Dakota*, the Court acknowledged that when the government collects and stores information, it can be reasonable to worry about the information being misused down the line,[28] even when such misuse would violate the law.[29] In other words, even if legal rules constrain the subsequent use of already-collected information, it can still be reasonable to worry that police—whether in good faith or bad—will flout those rules.[30] Lyra's anxiety, in short, is well-founded.

A. *The* Birchfield *Opinion*

Birchfield concerned the constitutionality of warrantless breathalyzer and blood tests to measure blood alcohol content pursuant to DUI arrests.[31] In particular, while every state has "long had what are termed 'implied consent laws,'" imposing civil "penalties on motorists who refuse to undergo testing when there is sufficient reason to believe they are violating the State's drunk-driving laws," both North Dakota and Minnesota went further, *criminalizing* refusal to be tested.[32] If an arrestee has a Fourth Amendment right to refuse such testing, then of course such a refusal cannot be criminalized.[33] Whereas if there is no such constitutional right to

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26. *E.g.*, Payton v. New York, 445 U.S. 573, 596–97 (1980) ("The common-law sources display a sensitivity to privacy interests that could not have been lost on the Framers. The zealous and frequent repetition of the adage that a 'man's house is his castle,' made it abundantly clear that both in England and in the Colonies 'the freedom of one's house' was one of the most vital elements of English liberty.").

27. For a famous—and perhaps becoming infamous—example of claimed police misuse of a blood sample in their custody, see Jessica McBride, *Nurse Was to Testify She Punctured Avery Blood Vial; Experts Say Holes Common*, ON MILWAUKEE (Jan. 13, 2016), https://onmilwaukee.com/movies/articles/makingamudererbloodvial.html.

28. 136 S. Ct. 2160, 2178 (2016).

29. *Id.*

30. For more on why we read the Court's language this way, see *infra* parts I.A and I.B. Another concern—bedfellow to the concern about ex post rule violation—is ex post rule *change*. It is possible, in other words, for anxiety to stem from the risk that at t_1, when information is collected, the rules regulating ex post extraction and use are stringent, but then at t_2, the rules become more relaxed, exposing the target of collection to a greater risk of subsequent extraction and use than was initially contemplated by the regulatory scheme. *See* Ric Simmons, *The Mirage of Use Restrictions* (forthcoming) (manuscript at 49) (on file with authors) (acknowledging this concern).

31. The Court consolidated three related cases for review. *Id.* at 2170–72.

32. *Id.* at 2166, 2169–70.

33. The Fifth Amendment privilege against compelled self-incrimination is not implicated because the testing is solely physiological and therefore not testimonial. *See* Schmerber v. California, 384 U.S. 757, 761–65 (1966). While we agree with the Court that refusal to surrender a Fourth Amendment right cannot be criminalized, we do not believe the Court has adequately explained why assertion of such a right can lead to civil and evidentiary

refuse, then such laws face no federal constitutional prohibition.[34]

The *Birchfield* Court first considered a breathalyzer, a device that requires an arrestee "take a deep breath and exhale through a mouthpiece that connects to the machine."[35] Police use of such a device constitutes a Fourth Amendment search because it is a physical intrusion into a constitutionally protected area (a "person") in order to obtain information.[36] And because there is no founding-era precedent given the novelty of the technology, the Court balanced a breathalyzer's privacy and liberty intrusion against the government need.[37]

A breathalyzer's intrusion is minimal: it requires only the most minor of physical discomforts ("[t]he use of a straw to drink beverages is a common practice and one to which few object"), it determines solely blood alcohol content ("only one bit of information"), and it does not compound the embarrassment or stigma of arrest.[38] In short, "[a] breath test does not implicate significant privacy concerns."[39] Moreover, the governmental interest is substantial, since breath tests are an effective tool for detecting and punishing—and thereby deterring—drunk driving and its associated carnage ("a grisly toll").[40] The *Birchfield* Court thus concluded that a breathalyzer test qualifies as a reasonable search incident to a DUI arrest under the categorical rule announced in *United States v. Robinson*.[41] Specifically, the search furthers one of *Robinson's* twin aims, namely preservation

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sanctions under theories of implied consent—if indeed those sanctions are constitutionally permissible. Justice Kennedy struggled with this distinction during oral argument. Transcript of Oral Argument at 6–7, Birchfield v. North Dakota, 136 S. Ct. 2160 (2016) (Nos. 14-1468, 14-1470, 14-1507); *see also id.* at 7–20, 36–39, 49, 55, 66, 71 (continuing discussion and confusion regarding the status and relevance of implied and express consent). Despite that commendable confusion, the Court ultimately distinguished the two situations in three paragraphs, ending in the conclusory assertion that it is not "reasonable" that persons "be deemed to have consented to submit to a blood test on pain of committing a criminal offense." *Birchfield*, 136 S. Ct. at 2186. This leaves uncertain the contours of the civil implied consent doctrine and the limitations of unconstitutional conditions. *See, e.g.*, Barrios-Flores v. Levi, 894 N.W.2d 888, 893–94 (N.D. 2017) (permitting breathalyzer test upon reasonable suspicion when all penalties for noncompliance are civil); People v. Hyde, 393 P.3d 962, 967–69 (Colo. 2017) (permitting warrantless blood draw when all penalties for noncompliance are civil).

34. *See Birchfield*, 136 S. Ct. at 2172–73.

35. *Id.* at 2168. Such breathalyzer devices can be portable, but the portable devices are less accurate than larger versions maintained and used in the controlled environment of a police station. *Id.* at 2168, 2170.

36. *See id.* at 2173 (recognizing previous holdings that a breathalyzer constitutes a search); *see also* United States v. Jones, 565 U.S. 400, 404–11 (2012) (resurrecting what is sometimes known as the "property-based" or "trespass-based" conception of Fourth Amendment search). The Fourth Amendment protects "persons, houses, papers, and effects." U.S. CONST. amend. IV.

37. *Birchfield*, 136 S. Ct. at 2176.

38. *Id.* at 2177.

39. *Id.* at 2178 (internal quotation marks omitted).

40. *Id.* at 2166 ("Drunk drivers take a grisly toll on the Nation's roads, claiming thousands of lives, injuring many more victims, and inflicting billions of dollars in property damage every year."); *see also id.* at 2178–79.

41. *Id.* at 2184 (relying on *United States v. Robinson*, 414 U.S. 218 (1973)). For background on *Robinson*'s categorical rule, *see id.* at 2175–76 (describing *Robinson* and more generally the history of searches incident to arrest); *id.* at 2179–80 (emphasizing the categorical nature of the rule). Two Justices would have gone further, requiring a warrant for the breathalyzer absent exigent circumstances. *Id.* at 2187 (Sotomayor, J., dissenting in part).

of evidence, as blood alcohol concentration naturally dissipates as the body metabolizes the alcohol.[42] Accordingly, a DUI arrestee has no right to refuse to comply with such a test, and thus a state can choose to criminalize a refusal, just as it can criminalize interfering with any other legitimate police investigation.[43]

Not so for a blood draw.[44] Under the same reasonableness balancing test, the intrusion is significant: a blood draw is physically invasive—"piercing the skin and extract[ing] a part of the subject's body"—and can be used to determine more than intoxication.[45] What is more, the government need is slight. Typically, the desired information can be reliably determined with the breathalyzer: "[b]reath tests have been in common use for many years . . . and are widely credited by juries."[46] And if for some reason a blood draw is necessary, such as to search for intoxicants other than alcohol, a blood draw is available with a warrant or upon exigent circumstances rendering a warrant impracticable.[47]

Finally, in what is the key paragraph for this paper, the Court further explained as follows:

> In addition, a blood test, unlike a breath test, places in the hands of law enforcement authorities a sample that can be preserved and from which it is possible to extract information beyond a simple BAC reading. *Even if the law enforcement agency is precluded from testing the blood for any purpose other than to measure BAC*, the potential remains and may result in anxiety for the person tested.[48]

We think the italicized clause is most important for appreciating *Birchfield*'s novelty. In it, the Court is effectively saying that legal "preclusion" of subsequent use of the blood sample does not suffice to extinguish the anxiety that accompanies collection. In other words, the "potential" imagined by the Court is the potential of *unauthorized* testing: the potential of testing despite the fact that some set of regulations (whether constitutional, statutory, administrative, or some combination thereof) prohibits it. Why is this so radical? Because judges are not normally in the business of protecting citizens against potential intrusions of privacy *that are already prohibited by law*.

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42. *Id.* at 2182–83. The other *Robinson* interest, protection of police officers, is not implicated in this instance. *Id.*

43. *Id.* at 2172.

44. Only one Justice would permit a warrantless blood draw for all DUI arrests. *Id.* at 2196–97 (Thomas, J., dissenting in part).

45. *Id.* at 2178 (internal quotation marks omitted).

46. *Id.* at 2184.

47. *Id.* at 2184–85. With some intoxicants—most prominently an issue with marijuana given recent legalization—the current issue is less about blood concentration than uncertainty in correlating driving impairment. *See* Beth Schwartzapfel, *Too Stoned To Drive?*, ABA JOURNAL, April 2017, at 18–19; State v. Bealor, 187 N.J. 574, 577 (2006) ("[U]nlike alcohol intoxication, no such general awareness exists as yet with regard to the signs and symptoms of the condition described as being 'high' on marihuana") (quoting State v. Smith, 276 A.2d 369, 374–75 (1971)).

48. *Birchfield*, 136 S. Ct. at 2178 (emphasis added).

B. Wait, Did the Court Just Say That?

Language can be nebulous and its interpretation divisive. And, of course, readers of judicial opinions must tread carefully when attaching significance to short, under-theorized passages. Although we acknowledge that *Birchfield* could be read differently, we think the Court's emphasis on anxiety even in the face of legal "preclusion" strongly suggests that its concern, ultimately, is about police flouting the law. We suspect the Court's reasoning went something like this:

> We are trying to determine whether or not the Fourth Amendment permits a warrantless blood draw. One reason such a blood draw is liberty invasive is because it physically pricks the skin and extracts bodily fluid. Another reason is because that fluid will be used to tell something about the state of the body, namely blood alcohol content. From that, further information can be inferred: the person had been drinking, and perhaps quite irresponsibly. What is more—and *much* more—additional information could be determined from that blood, including the person's entire genome. This potentially massive privacy invasion might be guarded against by laws—perhaps some constitutional and some statutory—that restrict the extraction of such information. But even if such legal restrictions exist, and even if they have remedial measures of their own, there is always the potential that an individual law enforcement officer will choose to disobey them. And this potential disobedience is important, because it may cause the person from whom the blood is extracted to be anxious, and that anxiety is relevant in the Fourth Amendment analysis.

This is how we understand the Court.[49] We recognize, however, that another person might read the opinion differently. This objector would be wary, perhaps, of accepting our assertion that *Birchfield* altered the traditional Fourth Amendment framework. But as we explain below, even if one finds the opinion ambiguous, our reading is backed by ample normative considerations that *should* make it the constitutional law.[50]

Moreover, consider the most plausible alternate reading, which we take to be something like this (with the bracketed portions glossing the Court's language, and using probable cause as an example of a possible use restriction):

> Even if the law enforcement agency is [prohibited, absent probable cause] from testing the blood for any purpose other than to measure BAC, the potential remains [that law enforcement will later develop probable cause and test the blood] and [this potential] may result in anxiety for the person tested. [So, we are going to require a warrant, in addition to probable cause, to obtain the blood sample.]

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49. Professor Ric Simmons seems to read the Court's language similarly, albeit deriving somewhat different normative conclusions therefrom. *See* Simmons, *supra* note 30, at 48.

50. *See infra* Parts I.D and III.

This view of *Birchfield*, we would argue, is just as radical as ours, albeit differently so. Under this interpretation, the Court would be expressing a strong position about police data collection in a potential world of Fourth Amendment "time machines"[51]: although police retention of such information might later help solve crime (in our example there is a fair probability this is so given the probable cause), the anxiety such storage causes is collectively greater than the marginal benefit to law enforcement, and therefore we are better off if police do not store the information. And by requiring a warrant for collection, there is a hope that police will simply not collect the blood sample in the first place, avoiding any possibility of anxiety. This is a radical claim about government data minimization to which we are sympathetic, and it might have very interesting things to say about using the Fourth Amendment for such ends. But for purposes of this paper—for reasons of economy if no other—we will limit ourselves to our favored interpretation.

We also recognize that another, more tangential style of objection is possible. "Fair enough," the tangential objector might say, "I agree that your reading of the Court's language is the most natural one; the Court said just what you claim. But let me assure you of this: Justice Alito did *not* fully think it through. And when he does, he'll just take it back. Supreme Court Justices do that all the time when confronted with previous language they have come to regret." In other words, if the Justices could have read this article before issuing their opinions, perhaps this entire paragraph would have been stricken! Maybe so. But, again, this would not lessen our normative claims. Indeed, while of course not every intuition bears the weight of careful analysis, it might be telling that some Supreme Court Justices have an intuition, based on recent Fourth Amendment developments, that they need to be increasingly concerned with law enforcement rule violation.

Again, we acknowledge the inherent ambiguity of language and the reasonableness of interpretive disagreement, and we have no great desire to psychoanalyze the Court—at least not here. But because we are persuaded that ours is the most natural reading of the Court text, and because we believe the position thus expressed to be normatively superior regardless, in the rest of the paper we will not muck up our analysis by continually acknowledging the potential for different textual interpretation, nor overly concern ourselves with the intentionality of the Court's language.

C. Fourth Amendment Use Restrictions

Before turning to why the *Birchfield* Court might have believed rule-violation anxiety to have Fourth Amendment relevance—a question we take up more fully

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51. *See* Stephen E. Henderson, *Fourth Amendment Time Machines (And What They Might Say About Police Body Cameras)*, 18 U. PA. J. CONST. L. 933, 939 (2016) [hereinafter Henderson, *Time Machines*] (analyzing how the Fourth Amendment should respond to remarkably complete digital records that both store our pasts and predict our futures).

in Part III—it is worth highlighting a clear implication of the Court's recognition of "misuse anxiety": that the Fourth Amendment restrains what police can do with lawfully obtained things. In other words, the Fourth Amendment embeds what have come to be called *use restrictions*.[52] In a sense, this is nothing new. The Court has long recognized use restrictions for certain physical items; for example, a closed container may be seized upon probable cause, but police must ordinarily obtain a warrant before searching it.[53] And while police may repeat a private search of such a container without Fourth Amendment restraint, they may not exceed its scope.[54] Furthermore, the Court has recognized that voluntarily adopted use restrictions—for example, when public school officials promise not to use the results of urine testing for anything besides eligibility to participate in extracurricular activities—can help render searches and seizures constitutional.[55]

Nonetheless, the Court has not explicitly recognized more nuanced use restrictions. For example, if the police lawfully obtain and search a computer hard drive pursuant to a warrant, may they *re-search* the drive for something different without obtaining a new warrant? And to that end, may they retain the hard drive (or a clone of it) once the initial investigation has run its course? We think not.[56] But the Supreme Court has yet to say so, making it meaningful that *Birchfield* considered relevant to its Fourth Amendment analysis the anxiety that police might not conform to legally required use restraints. If that anxiety can affect the Fourth Amendment collection rule—as it did in *Birchfield*—then presumably the Fourth Amendment should also sometimes require such restraints. These restraints will become increasingly important as the government, including law enforcement, obtains more and more personal data in the era of ubiquitous computing.

At the same time, we acknowledge there is ongoing debate about the wisdom and efficacy of use restrictions. Ric Simmons, in particular, has persuasively

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52. *See* Harold J. Krent, *Of Diaries and Data Banks: Use Restrictions Under the Fourth Amendment*, 74 TEX. L. REV. 49 (1995); *see also* Stephen E. Henderson, *Nothing New Under the Sun? A Technologically Rational Doctrine of Fourth Amendment Search*, 56 MERCER L. REV. 507, 559–62 (2005) (building on Krent's thesis); Henderson, *Time Machines*, *supra* note 51, at 960–63 (same); Rebecca Lipman, *Protecting Privacy With Fourth Amendment Use Restrictions* (forthcoming, manuscript on file with authors) (same); Helen Nissenbaum, *Must Privacy Give Way to Use Regulation?* (forthcoming) (on file with authors) (same); *cf.* Simmons, *supra* note 30 (agreeing that use restrictions can solve some seemingly intractable Fourth Amendment problems, but also persuasively arguing that they are no panacea and so must be very thoughtfully considered).

53. *See* United States v. Chadwick, 433 U.S. 1, 11, 15–16 (1977).

54. United States v. Jacobsen, 466 U.S. 109, 115–18 (1984); *see also* City of Charleston v. Ferguson 532 U.S. 67, 78 (2001) (holding that testing a patient's urine for evidence of drug use was unreasonable in light of the "expectation . . . by the typical patient undergoing diagnostic tests in a hospital . . . that the results of those tests will not be shared with nonmedical personnel without her consent").

55. Bd. of Educ. v. Earls, 536 U.S. 822, 833–34 (2002); Vernonia Sch. Dist. v. Acton, 515 U.S. 646, 658 (1995).

56. United States v. Ganias, 755 F.3d 125, 137–40 (2d Cir. 2014). The Second Circuit later disposed of the case en banc based upon the so-called "good faith exception" to the exclusionary rule. United States v. Ganias, 824 F.3d 199 (2d Cir. 2016); *see also* Henderson, *Time Machines*, *supra* note 51, at 944–48 (discussing *Ganias*).

argued their complications.[57] Ultimately, while *Birchfield* certainly provides implicit support for the idea that use restrictions are at least one important part of the Fourth Amendment puzzle, the more important upshot of *Birchfield* runs orthogonal to the use restrictions debate: the point is precisely that use restrictions, no matter how refined they become, and whether rooted in constitutional, statutory, or administrative law—or some combination thereof—cannot fully dispose of reasonable anxiety about the use of state power. As Simmons puts it, in some contexts, "[t]he mere collection of information, regardless of how or whether it is used, can be a violation of privacy."[58]

But, returning more specifically to *Birchfield*, why should anxiety of rule violation play a Fourth Amendment role? What are the normative rationales potentially underlying the Court's anxiety intuition?

D. Underlying Normative Rationales

In general, there are at least two reasons to worry about "plac[ing] in the hands of law enforcement"—or, in some sense, any counterparty—"[evidence] that can be preserved and from which it is possible to extract information beyond [that initially intended]."[59] What is more, both reasons track the Court's overarching concern about law enforcement disregarding the rules at t_2. Neither rationale *depends* on the risk that rules will not be followed, but both are intensified by that risk—and both therefore supply (non-exclusive) explanations why the Court may have seen fit to call for warranting at t_1, rather than relying entirely on a regime of use restrictions (whatever that may be) at t_2.

The first normative rationale is a cousin to what are often termed *chilling effects*. Chilling effects occur because people tend to modify their behavior when they know, or suspect, that it might be subject to monitoring by others.[60] Whether those "others" are government agents, corporate actors, or simply friends, family members, co-workers, and acquaintances, the point remains: surveillance often leads people to modify their behavior. Of course, not all behavior modification is bad. Sometimes it can yield social benefits, as in one study in which monitoring led to a significant decrease in littering.[61] Just as anonymity—or even merely perceived anonymity—can foster antisocial behavior, surveillance can lead to

57. *See* Simmons, *supra* note 30.

58. *Id.* at 48.

59. Birchfield v. North Dakota, 136 S. Ct. 2160, 2178 (2016).

60. *See* Henderson, *Time Machines*, *supra* note 51, at 954–57 (gathering sources, including social science experiments demonstrating that even merely a reminder of the concept of surveillance affects behavior).

61. Max Ernest-Jones et al., *Effects of Eye Images on Everyday Cooperative Behavior: A Field Experiment*, 32 EVOLUTION & HUM. BEHAV. 172, 176 (2011) (finding that people littered half as often when an image of human eyes was displayed nearby).

accountability, encouraging our "better angels."[62] But surveillance also has the capacity to stifle expressive autonomy, as under a totalitarian regime like that of the East German Stasi or George Orwell's *Nineteen Eighty-Four*.[63]

The animating concern in *Birchfield*, however, cannot be traditional chilling effects—in the sense just described—because subjects of data collection have no opportunity to modify their behavior in advance; the information giving rise to potential anxiety is already stored in static form (e.g., in a blood sample, or on a hard drive) by the time the anxiety sets in.[64] Instead, the opportunity for behavior modification in a case like *Birchfield* comes *after* collection—specifically, in the form of avoiding future contact with law enforcement, so as to minimize the chances of having files and evidence lockers reopened. In other words, if the police possess a "database of ruin" about you,[65] you might take steps—even beyond the steps that most of us normally take—to avoid run-ins with the police. In what follows, we will refer to this type of chilling effect as *entanglement chill*.

The second rationale for worrying about more information finding its way into the hands of a counterparty—government official or otherwise—is simply that information is not always kept secure. The more people that have records about you, the more likely it becomes that the records will be disseminated further, either because of purposive action (such as leaks) or unintended mistakes (such as data breaches). Further, when the concern is an intentional leak, it obviously contributes to entanglement chill, meaning the two normative concerns are not mutually exclusive. Finally, both concerns—entanglement chill and data insecurity—are intensified if there are few limitations on what the counterparty is permitted to do with the information, or if—as we have been emphasizing—the counterparty cannot be trusted to abide by limitations that do exist. One will be especially wary of run-ins with the police, after the police have collected evidence that contains incriminating or sensitive information, if the police are not properly bound by the rules meant to restrain examination and dissemination.

Suppose, for example, that Mary is experiencing issues with her personal computer, so she takes it to a local repair shop, where technicians recommend that

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62. *See* William H. Simon, *Rethinking Privacy*, BOS. REV. (Oct. 20, 2014), http://bostonreview.net/books-ideas/william-simon-rethinking-privacy-surveillance ("The second trope of the paranoid style is the portrayal of virtually all tacit social pressure as insidious.").

63. GEORGE ORWELL, NINETEEN EIGHTY-FOUR (1949).

64. Perhaps some biological or digital component could degrade more quickly than the remainder, but that is an edge case. Another edge case would be persons "breaking bad" and trying to dispossess law enforcement of already-collected evidence. *See Breaking Bad: Live Free or Die* (AMC television broadcast Jul. 15, 2012) (describing a Walter White–Jesse Pinkman scheme to wipe a laptop residing in a police evidence room).

65. *See* Paul Ohm, *Don't Build a Database of Ruin*, HARV. BUS. REV. (Aug. 23, 2012), https://hbr.org/2012/08/dont-build-a-database-of-ruin (arguing against thoughtless databasing in the private sphere). By using Ohm's example, we do not mean to insinuate that only incriminating or embarrassing information is relevant. Information privacy is of course concerned with the right to control all information flows, and significant information—such as political views or medical conditions—can be very sensitive, even if in no way criminal or tortious.

she permit them to clone her hard drive. The technicians explain that company policy dictates strict protocols for data storage; once Mary's hard drive is cloned, it will be kept safe. If Mary is convinced, she won't worry about unintentional data breaches, and unless she expects to have to return her computer in the future, she is unlikely to modulate future behavior on account of what that activity will leave on her hard drive. Mary may, however, worry about the repair company, or specific technicians, using her cloned hard drive, down the line, in ways that run counter to her interests. Last year, for instance, *The Washington Post* reported that employees of Best Buy's "Geek Squad" have, for some time, been paid for funneling child pornography leads to the FBI.[66] There is little reason, in principle, to think this kind of corporate vigilantism will stay limited to that domain.[67] Against this backdrop, Mary might well wonder if the repair technicians plan to snoop around her hard drive for signs of suspicious conduct, or for salacious content unrelated to the repair job. And this gives Mary reason not to press any disputes she may have with the company, whether they be related to billing in this instance or even to an entirely unrelated transaction (which would be analogous to "entanglement chill," but toward an entity other than law enforcement).

Similarly, imagine that Joe decides to give his psychotherapist and attorney access to his email account. (Say Joe is worried that he has become embroiled in unhealthy communication patterns with his ex-spouse, and that some of the emails might contain evidence of criminally proscribed true threats.) In this circumstance, Joe would be unlikely to worry about misuse of the information contained in his emails, and thus he would not suffer entanglement chill; both his psychotherapist and his attorney are under an ethical obligation, and typically also a legal obligation, to keep the information private. But Joe might worry about data security: What if the psychotherapist copies his emails onto a USB flash drive and fails to secure those copies? What if the attorney shares an office and accidentally leaves Joe's email account open on a joint computer? Or she stores the emails in the cloud and uses only a weak—and not unique—password?

Ultimately, the presence or absence of either rationale—entanglement chill or data insecurity—will vary by context and depend on the circumstances of a given collection practice. Under the circumstances of *Birchfield*, it seems implausible that the Court was worried primarily (if at all) about data insecurity, since blood is typically stored *as a material sample* on government premises (*e.g.*, at the police station), rendering it unlikely that a leak or a "data breach"—that is, a physical

66. *See* Tom Jackman, *If a Best Buy Technician Is a Paid FBI Informant, Are His Computer Searches Legal?*, WASH. POST, Jan. 9, 2017. For a discussion of how practices like these fare under the private search rule, see Kiel Brennan-Marquez, *Outsourced Law Enforcement*, 18 U. PA. J. CONST. L. 797 (2016).

67. For example, why not use the fascinating science of perceptual hashing to try to identify copyright scofflaws? *See, e.g.*, pHash, http://www.phash.org/ (last visited Sept. 5, 2017); Petter Christian Bjelland et al., *Practical Use of Approximate Hash Based Matching in Digital Investigations*, 11 DIGITAL INVESTIGATION S18 (2014).

invasion of the police evidence locker—would occur. This leaves entanglement chill, exacerbated by the prospect of rule disregard.

Together, these are significant concerns. Not only can they meaningfully affect future behavior in undesirable ways, but they can cast a pall over the subject's life, decreasing her psychological well-being even apart from actual behavior modification.[68] The mere knowledge that a third party—especially an agent of the state—possesses information that a person does not want revealed (a genetic anomaly, say, or a flirtatious indiscretion), and the corresponding recognition that the party could at any time discover the information and potentially disclose it, decreases the person's happiness. And when information is stored in an insecure manner, we have the anxiety trifecta.

II. BEYOND DETERRENCE

By casting *Birchfield* as radical, we hardly mean to suggest that before 2016, concern about police abuse was absent from Fourth Amendment jurisprudence. In fact, such concern has long animated the Supreme Court's approach to the exclusionary rule. The reason courts exclude illegally procured evidence, the Court has made clear, is to deter bad behavior—logic that explicitly contemplates the possibility of police abuse.

In short, the proposition that police do not always follow the rules is nothing new. In fact, it verges on obvious. What makes *Birchfield* distinctive is the *role* this proposition plays in the Court's reasoning—as a rationale for broadening the Fourth Amendment's substantive reach, as opposed to configuring the remedies that are available in the event of violation. In other words, *Birchfield* required the Court to extrapolate from deterrence to rule formulation: from thinking about unlawful searches and seizures as an issue to be redressed ex post—as the Court has long done—to thinking about unlawful searches and seizures as an eventuality to be preempted ex ante.

A. From the Exclusionary Rule to Birchfield *Warrants*

On one view, whether police violated the Constitution or other rules in obtaining evidence should be contested independent of criminal prosecutions—with civil remedies available to successful litigants[69]—since the goal of a prosecution is discovering truth, and the best way to discover truth is to consider *all* reliable

68. *See infra* Part III.A (tracing other areas of criminal procedure in which the Court has identified decreased psychological well-being as a constitutional harm).

69. These other proceedings might include the common law writ of replevin seeking return of the material, which could effectively lead to non-contraband items being unavailable for admission at trial. *See* Francis Barry McCarthy, *Counterfeit Interpretations of State Constitutions in Criminal Procedure*, 58 SYRACUSE L. REV. 79, 95–96 (2007).

evidence.[70] Thus, in 1904, the Court declared that "courts do not stop to inquire as to the means by which the evidence was obtained."[71] In other words, there was no exclusionary rule.

If there is a robust system of administrative discipline for unconstitutional actions, perhaps supported by an equally robust system of civil and criminal liability, this might work fine. But the Court relatively quickly came to the conclusion that such was not the case. Only ten years later, in 1914, the Court suppressed evidence obtained unconstitutionally by a federal marshal, lest "the protection of the 4th Amendment . . . [be] of no value."[72] Along with the defendant's rights, the very legitimacy of the courts was at stake: "The tendency of those who execute the criminal laws of the country to obtain conviction by means of unlawful seizures . . . should find no sanction in the judgments of the courts, which are charged at all times with the support of the Constitution, and to which people of all conditions have a right to appeal for the maintenance of such fundamental rights."[73]

But the Fourth Amendment's protections did not yet apply as against state actors via Fourteenth Amendment Due Process, so the *Weeks* Court did not suppress evidence obtained by state police.[74] Moreover, when the Court later did incorporate the Fourth Amendment rights as against the states, in *Wolf v. Colorado*, it held that exclusion of evidence was *not* itself a fundamental right and therefore did not apply.[75] After all, by the Court's 1949 count, only sixteen states themselves required such suppression, while thirty-one did not.[76]

This reticence, however, would only last twenty years. Indeed, a mere three years after *Wolf*, the Court demonstrated its failing patience with repeated state violations of Fourth Amendment rights, excluding such evidence on the basis of

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70. *See* United States v. Payner, 447 U.S. 727, 734 (1980) ("Our cases have consistently recognized that unbending application of the exclusionary sanction to enforce ideals of governmental rectitude would impede unacceptably the truth-finding functions of judge and jury.").

71. Adams v. New York, 192 U.S. 585, 594 (1904).

72. Weeks v. United States, 232 U.S. 383, 393 (1914), *overruled by* Mapp v. Ohio, 367 U.S. 643 (1961). Unlike in *Adams*, the *Weeks* defendant had sought a return of his property. *See id.* at 396. This requirement that a defendant must first seek return of the property in order to seek exclusion began to see its demise in *Gouled v. United States*, 255 U.S. 298, 312–13 (1921). Also of note is one exclusionary precedent pre-*Weeks*, in the context of civil forfeiture. *See* Boyd v. United States, 116 U.S. 616 (1886).

73. *Weeks*, 232 U.S. at 392.

74. *Id.* at 398.

75. Wolf v. Colorado, 338 U.S. 25, 32 (1949), *overruled by* Mapp v. Ohio, 367 U.S. 643 (1961). The Court explained:

> When we find that in fact most of the English-speaking world does not regard as vital to [search and seizure] protection the exclusion of evidence thus obtained, we must hesitate to treat this remedy as an essential ingredient of the right. The contrariety of views of the States is particularly impressive in view of the careful reconsideration which they have given the problem in the light of the *Weeks* decision.

Id.

76. *Id.* at 29.

due process.[77] Eight years later, the Court tired of—and put an end to—federal prosecutions benefitting from such state illegality.[78] Nine years after that, in *Mapp v. Ohio*, the Court applied the exclusionary rule to state and federal officers alike.[79] Suppression of unconstitutionally obtained evidence was "a clear, specific, and constitutionally required—even if judicially implied—deterrent safeguard without insistence upon which the Fourth Amendment would have been reduced to a form of words."[80]

Thus, the Court has long recognized not only that police will violate some constitutional rules, but also that Fourth Amendment remedies should be crafted with those violations in mind. In other words, the Court should put in place incentives for police to *follow* those rules. As the Court stated in *Mapp*, "the purpose of the exclusionary rule is to deter—to compel respect for the constitutional guaranty in the only effectively available way—by removing the incentive to disregard it."[81] And while the *Mapp* Court adhered to *Weeks's* assertion of judicial integrity,[82] this alternative justification for exclusion has fallen out of favor. In 1984, in *Leon v. United States*, the Court thought it more likely that citizens would disrespect courts that effectively freed or enabled criminals on account of law enforcement blunders.[83] Thus, today, deterring police violations is not only *a* rationale for the exclusionary rule, it is the *exclusive* rationale.[84]

In the fifty years since *Mapp*, the Court has begun to question even this deterrent role. Perhaps, think some Justices, police departments have become sufficiently professionalized and civil sanctions sufficiently available such that exclusion is no longer as important a deterrent.[85] There are an increasing number of situations,

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77. Rochin v. California, 342 U.S. 165, 173 (1952).

78. Elkins v. United States, 364 U.S. 206, 208 (1960) (ending the "silver platter doctrine" by which federal prosecutions took advantage of evidence unconstitutionally obtained by state officers).

79. 367 U.S. 643, 655 (1961).

80. *Id.* at 648 (internal quotation marks omitted).

81. *Id.* at 656 (quoting *Elkins*, 364 U.S. at 217).

82. *See id.* at 659 ("[T]here is another consideration—the imperative of judicial integrity. The criminal goes free, if he must, but it is the law that sets him free. Nothing can destroy a government more quickly than its failure to observe its own laws, or worse, its disregard of the charter of its own existence.") (internal quotation marks and citation omitted).

83. 468 U.S. 897, 908 (1984) ("Indiscriminate application of the exclusionary rule . . . may well generate disrespect for the law and administration of justice.") (internal quotation marks omitted).

84. *See, e.g.*, Utah v. Strieff, 136 S. Ct. 2056, 2061 (2016) ("In the 20th century . . . the exclusionary rule . . . became the principal judicial remedy to deter Fourth Amendment violations."); Davis v. United States, 564 U.S. 229, 236–37 (2011) ("The rule's sole purpose, we have repeatedly held, is to deter future Fourth Amendment violations."). *See generally* David Gray, *A Spectacular Non Sequitur: The Supreme Court's Contemporary Fourth Amendment Exclusionary Rule Jurisprudence*, 50 AM. CRIM. L. REV. 1 (2013) (strongly arguing against this move).

85. *See* Hudson v. Michigan, 547 U.S. 586, 597–98 (2006) ("For years after *Mapp*, very few lawyers would even consider representation of persons who had civil rights claims against the police, but now much has changed. Citizens and lawyers are much more willing to seek relief in the courts for police misconduct . . . . Another development over the past half-century that deters civil-rights violations is the increasing professionalism of police forces, including a new emphasis on internal police discipline.") (internal quotation marks omitted).

therefore, in which the exclusion of unlawfully obtained evidence is no longer required.[86] But at least for now, the Court continues its century-long commitment to excluding certain evidence in order to deter law enforcement violations, thereby continuing a long tradition of recognizing police abuse. This tradition, of course, does not preempt or anticipate such abuse; it merely removes some of its benefits. Against this backdrop, the innovation—and wisdom—of *Birchfield* was to recognize that the same normative considerations that militate in favor of ex post penalties also militate, in some settings, in favor of ex ante constraint.

B. Differentiating Birchfield *Warrants from Warrants in General*

Yet an important question remains. Even if one is convinced that *Birchfield*'s focus on ex ante constraint sets it apart, conceptually and doctrinally, from the Court's exclusionary rule jurisprudence, how different is the focus on ex ante constraint from the warrant requirement itself?[87] In other words, *Birchfield* responds to the problem of future misuse by requiring law enforcement to consult with a neutral judge or magistrate before engaging in the collection of information-rich evidence—but the *Birchfield* Court also assumed (for the sake of argument) that police would have to consult with a neutral judge or magistrate before engaging in further *use* of such evidence. How do these functions differ? What is gained by requiring judicial authorization at t_1 rather than (or in addition to) t_2?

We see four answers to this question. *First*, even if the type of authorization that occurs at t_1 is identical, in substance, to the authorization that might occur at

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86. *See* Alderman v. United States, 394 U.S. 165, 174–75 (1969) (imposing standing limitation); United States v. Calandra, 414 U.S. 338, 351–52 (1974) (holding suppression does not apply to grand jury proceedings); United States v. Janis, 428 U.S. 433, 459–60 (1976) (holding suppression does not apply in civil proceedings); *Leon*, 468 U.S. at 926 (holding suppression does not apply when an officer reasonably relies upon an invalid search warrant); Massachusetts v. Sheppard, 468 U.S. 981, 991 (1984) (same); INS v. Lopez-Mendoza, 468 U.S. 1032, 1049 (1984) (holding suppression does not apply in deportation proceedings); Illinois v. Krull, 480 U.S. 340, 349–50 (1987) (holding suppression does not apply when an officer reasonably relies upon an unconstitutional statute); Arizona v. Evans, 541 U.S. 1, 16 (1995) (holding suppression does not apply when an officer reasonably relies upon an erroneous court record); *Hudson*, 547 U.S. at 586 (holding suppression does not apply when an officer violates the knock and announce requirement); Herring v. United States, 555 U.S. 135, 147–48 (2009) (holding suppression does not apply when an officer reasonably relies upon an erroneous police record of a neighboring jurisdiction); *Davis*, 564 U.S. at 249–50 (holding suppression does not apply when an officer reasonably relies upon erroneous circuit precedent); *Strieff*, 136 S. Ct. at 2056 (holding suppression does not apply when an officer discovers an outstanding warrant in the course of an illegal stop).

87. In the words of the Court in *Steagald v. United States*, 451 U.S. 204, 215–16 (1981) (quoting Chimel v. California, 395 U.S. 752, 766 n.12 (1969)):

> As we observed on a previous occasion, "[t]he [Fourth] Amendment is designed to prevent, not simply to redress, unlawful police action." Indeed, if suppression motions and damages actions were sufficient to implement the Fourth Amendment's prohibition against unreasonable searches and seizures, there would be no need for the constitutional requirement that in the absence of exigent circumstances a warrant must be obtained for a home arrest or a search of a home for objects. We have instead concluded that in such cases the participation of a detached magistrate in the probable-cause determination is an essential element of a reasonable search or seizure, and we believe that the same conclusion should apply here.

t_2—meaning, even if the "*Birchfield* warrant" simply reminds the police, pre-collection, of use constraints that already exist and would otherwise be imposed down the line—the reminder can still be valuable, psychologically and institutionally. *Second*, if that pre-collection reminder is also provided to the target, it can lessen her anxiety of misuse. *Third*, depending on the content of a "*Birchfield* warrant," it is possible that the authorization bestowed at t_1 will *not* be identical to the authorization that would have been bestowed at t_2. *Fourth*, and perhaps most importantly in practice, the mere fact that police now have to seek a warrant for blood draws—and bear the associated cost and headache—will encourage officers in the mine run of cases to be satisfied with the less invasive, less abuse-prone option: breathalyzer tests.

To begin with, even if the sole function of a "*Birchfield* warrant" is to remind officials of their future obligations—that is, even when the limitations set forth at t_1 are identical to the limitations that would have been imposed at t_2—the reminder can still make a difference. It is one thing to be aware of rules in the abstract, as they apply to all similarly situated actors, across contexts; it is quite another thing for a specific actor to have the same rules brought to her direct attention, in a concrete way before the fact. Consider, for example, employee handbooks. Most employees in sensitive industries, presumably, are aware—in an abstract way—that certain protocols and restrictions attach to the transfer of data from work computers to home computers. If a company were worried about compliance, however, it would still make sense to distribute a firm-wide memorandum reminding employees of their responsibilities. The memorandum would have no effect on the *substance* of employee obligations. But if one had to wager about which world is more conductive to compliance—the one with the memorandum or the one without—the choice would be obvious. And if a company really wants to increase compliance, it might require every employee to pass an annual or semi-annual quiz testing competence on these rules. Just as the topic-specific memorandum is likely to receive more attention than the employee handbook, the comprehension-testing quiz demands more attention than the memo. Thus, the same is true of requiring an upfront, pre-acquisition warrant that (ideally) demonstrates an understanding of relevant usage rules and how they apply to the particular situation.

Relatedly, a warrant will typically be shared with the person from whom the information is acquired.[88] Just as a reminder of access and use limitations can be

88. *See, e.g.*, FED. R. CRIM. P. 4(c)(3)(A) (requiring officer to show arrest warrant); FED. R. CRIM. P. 41(f)(1)(C) (requiring officer to show search warrant); *cf.* Groh v. Ramirez, 540 U.S. 551 (2004) (suggesting that one function of warrants is to put certain targets of investigation—like homeowners—on notice of the lawful scope of law enforcement authority); *see also* Transcript of Oral Argument at 13, County of Los Angeles v. Mendez, 137 S. Ct. 1539 (2017) (No. 16-369) ("Well, it's—it's possible. I mean, I take the point, Mr. Rosenkranz, it's possible that you have a warrant in your pocket and you don't say anything about it, although that would seem like very silly—stupid police work. But the prototypical case when somebody has a warrant is that they tell a homeowner they have a warrant and that they have a right to be on the premises. That's what usually happens. And

meaningful to the police officer, a reminder of such limitations can meaningfully lessen the target's anxiety of misuse. Moreover, because a target is less likely to otherwise realize these limitations—unlike a police officer who hopefully is well trained in the restrictions of the Fourth Amendment and other law—this written articulation might be especially important. And just like provision of the *Miranda* warnings gives some assurance to one undergoing custodial interrogation that police are "playing by the rules,"[89] provision of a warrant can provide similar assurance, once again lessening anxiety.

In practice, furthermore, there is little reason to think that "*Birchfield* warrants" will be confined to reiterating—and pushing up in time—the limits on subsequent use that already exist as a matter of background Fourth Amendment law. They may be so confined in some cases. In other cases, however, judges will presumably use the t_1 warranting process as an opportunity to craft further constraints, particularly technological constraints, designed to ensure t_2 compliance. Thus, a *Birchfield* warrant used to regulate blood draws might be quite different from a (counterfactual) *Birchfield* warrant used to regulate breathalyzers. In the latter case, as the Court itself recognized, a t_1 warrant requirement would be largely meaningless because the scope of potential information extraction is already very effectively limited to blood alcohol concentration, obviating the need for further use restrictions.[90] By contrast, a judge issuing a *Birchfield* warrant for a blood draw might choose to impose, in addition to use restrictions, certain institutional and/or technological safeguards designed to ensure the restrictions' practical efficacy.[91] In

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similarly, what often happens is that when somebody doesn't say that to a homeowner, they are making it far more likely that violence will ensue.") (Kagan, J.). We are skeptical that civil—meaning courteous and polite—notice does typically occur, but firmly believe that it typically should, being a norm only deviated from for cause.

89. *See infra* Part III.B.

90. *See* Birchfield v. North Dakota, 136 S. Ct. 2160, 2181 (2016) ("As for the second function served by search warrants—delineating the scope of a search—the [breathalyzer] warrants in question here would not serve that function at all. In every case the scope of the warrant would simply be a BAC test of the arrestee.").

91. It bears noting that the judicial *authority* to demand institutional and technological safeguards, in the sense we have in mind, is not a foregone conclusion. Some commentators have argued that judges should not go beyond the determination of probable cause when permitting seizures of evidence, including the collection of information-rich evidence. *See, e.g.*, Orin S. Kerr, *Ex Ante Regulation of Computer Search and Seizure*, 96 VA. L. REV. 1241, 1246 (2010) ("Magistrate judges have no inherent power to limit how warrants are executed beyond establishing the particularity of the place to be searched and the property to be seized."); Orin Kerr, United States v. Cote *and the Trouble with Ex Ante Search Restrictions on Computer Warrants*, VOLOKH CONSPIRACY (Apr. 2, 2013, 1:00 AM), http://volokh.com/2013/04/02/united-states-v-cote-and-the-trouble-with-ex ante-search-restrictions-on-computer-warrants/ (arguing that ex ante restrictions, in addition to being "ultra vires," also "impede the development of the law" by turning "post-search litigation over the execution of the warrant . . . into litigation over compliance with the ex ante search restrictions instead of compliance with the reasonableness requirement of the Fourth Amendment"). Although a full elaboration of the point lies beyond the scope of this article, our intuitions train the other way. To begin with, on the *ultra vires* point, it seems odd to rely on historical warranting practices as a constraining benchmark for the digital world; as many commentators have noted—and as the Supreme Court has acknowledged in recent opinions like *Riley v. California*—digital is different. *See, e.g.*, *Riley v. California*, 134 S. Ct. 2473, 2488 (2014) ("The United States asserts that a search of all data stored on a cell phone is 'materially indistinguishable' from searches of these sorts of physical items. That is like saying a ride on

cases involving digital evidence, those safeguards might take the form of intrusion detection, immutable audit logs, search protocols, and purge requirements.[92] In cases involving material evidence, like *Birchfield* itself, they might take the form of physical locks, logging and auditing requirements, and purge requirements.[93]

Finally, there will be some cases—perhaps a great many—in which the hassle associated with "*Birchfield* warrants" will simply push law enforcement toward breathalyzer tests or their equivalent, nipping the risk of post-collection misuse in the bud. In other words, it may be that in the context of DUI arrests, few *Birchfield* warrants will ever actually issue, because the police will simply dispense with blood tests. This would circumvent the anxiety problem entirely.[94]

III. ANTI-ANXIETY NORMS, "CLOSED-DOOR" POLICING, AND REGULATION OF TECHNOLOGICAL SURVEILLANCE

As should be clear by now, we regard *Birchfield* as novel for treating the risk of law enforcement rule violation (and accompanying anxiety) as a lodestar for substantive Fourth Amendment rules. That said, the core principle on which *Birchfield* rests—an "anti-anxiety" principle—is hardly foreign to constitutional criminal procedure. On the contrary, the principle has surfaced historically in at least two areas of doctrine.

First, the Court has explicitly identified "anxiety" as a harm deserving of constitutional protection in areas where enforcement officials—police officers and

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horseback is materially indistinguishable from a flight to the moon.") (internal citation omitted). Secondly—and more importantly—if we strip magistrate judges of the ability to incorporate reasonable search and use restrictions into warrants that involve the seizure of information-rich evidence, there is an acute risk of perversity: magistrates may simply cease to authorize such warrants *at all*. As Paul Ohm has noted:

> [T]he irony of Professor Kerr's argument [against ex ante restrictions] is that a court that agrees with it might feel compelled to *reject wholesale* most search warrants for computers. Deprived of the power to creatively superintend computer searches, a court can reasonably conclude that evolving technological realities leave it no choice but to reject every computer warrant for a manifest lack of probable cause and intractable failure of particularity.

Paul Ohm, *Massive Hard Drives, General Warrants, and the Power of Magistrate Judges*, 97 VA. L. REV. IN BRIEF 1, 8 (2011).

92. *See, e.g.*, STANDARDS FOR CRIMINAL JUSTICE: LAW ENFORCEMENT ACCESS TO THIRD PARTY RECORDS, § 25-6.1 (AM. BAR. ASS'N 2013) [hereinafter STANDARDS FOR CRIMINAL JUSTICE]; *see also* Kelly Freund, Note, *When Cameras are Rolling: Privacy Implications of Body-Mounted Cameras on Police*, 49 COLUM. J.L. & SOC. PROBS. 91, 112–15 (2015) (exploring different ideas for the protocols that should attach to storage and access of material recorded by police body cameras).

93. STANDARDS FOR CRIMINAL JUSTICE, *supra* note 92.

94. This possibility underscores something important about the effect of putting so much stock, doctrinally, in the threshold question of which investigative practices require warrants. When the Court determines that a warrant is required for Investigative Practice X but not for Investigative Practice Y—or more fundamentally, that Investigative Practice X qualifies as a Fourth Amendment search, but Investigative Practice Y does not—it gives law enforcement an incentive to adopt Investigative Practice Y. In this sense, the calibration of Fourth Amendment coverage rules, as well as the application of the warrant requirement, might be as likely in some circumstances to *shut down* investigative methods as to *constrain* investigative methods.

prosecutors—enjoy a large amount of discretion that enables them to lord the possibility of enforcement over would-be suspects and defendants. We call this the "Sword of Damocles" problem, and it is discernible in the Court's speedy trial and double jeopardy jurisprudence. Although these circumstances are each unique and different from the situation in *Birchfield*, together they demonstrate a Court that consistently recognizes anxiety as a matter of constitutionally dimension.

Second, the Court has implicitly recognized the anxiety that accompanies custodial interrogation—and all too easily invites involuntary confessions—leading to the creation of *Miranda* warnings as a prophylactic Fifth Amendment rule. Although *Miranda* warnings somewhat lessen immediate anxiety—including by assuring the detainee that remaining silent is an option, as is obtaining help from the presence of an attorney[95]—the warnings do not completely ameliorate a problem inherent in traditional custodial interrogation; it still takes place incommunicado. We call this the "Closed-Door" problem: law enforcement activity that happens behind closed doors is inherently more prone to escalation and abuse, an important consideration in the *Birchfield* calculus.

Finally, we conclude this Part by suggesting that as modern policing and data science begin to resemble George Orwell's *Nineteen Eighty-Four*[96] or Philip K. Dick's *Minority Report*[97]—in even the remotest ways—anxiety, on the part of both judges and citizens, is a legitimate response.[98] There is little reason to think Supreme Court Justices would be immune from such anxiety, much less that they *should* be. So, it should come as little surprise that the Justices have begun to push back, in cases like *Jones* and *Riley*, on law enforcement practices that intuitively seem to brush past familiar limits of state power by virtue of technological change. *Birchfield*, we argue, can be seen as part this recent trajectory—and laudably so. At the same time, what is good for the goose can be good for the gander, and technology, properly harnessed, might itself play a role in lessening certain anxieties and thereby allowing legislatures and courts to more freely enable effective law enforcement.

A. The "Sword of Damocles" Problem

Since the mid-twentieth century,[99] the Court has invoked "anxiety" in disparate areas of criminal procedure to describe the constitutional harm that results from state officials wielding too much discretion to decide whether, and when, to

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95. *See infra* Part III.B.

96. GEORGE ORWELL, NINETEEN EIGHTY-FOUR (1949).

97. PHILIP K. DICK, THE MINORITY REPORT (1956).

98. *See, e.g.*, Florida v. Riley, 488 U.S. 445, 466 (1989) (Brennan, J., dissenting) (commenting upon police helicopter surveillance in Orwell's *1984*).

99. Just as an interesting aside, the Court's first invocation of the concept might be in 1892 when it suggested that exposing defendants to the "anxiety" of possible capital punishment should require the prosecution to turn over more material. *See* Logan v. United States, 144 U.S. 263, 307–08 (1892), *abrogated by* Witherspoon v. Illinois, 391 U.S. 510, 529 (1968).

enforce criminal laws.[100]

One such area is speedy trial jurisprudence.[101] The speedy trial guarantee is "one of the most basic rights preserved by our Constitution,"[102] and yet it is "amorphous, slippery, and necessarily relative,"[103] "a more vague concept than other procedural rights."[104] It is a right whose only remedy is dismissal of a charge with prejudice,[105] and a right that some guilty defendants will have no interest in asserting (preferring that witnesses have ample time to forget, to move away, to die, or simply to lose interest).[106] But for other defendants, the right will be critical because, as the Court has recognized, it is meant "to minimize anxiety and concern of the accused."[107] Even a defendant released from custody pretrial is "unable to lead a normal life because of community suspicion and his own anxiety."[108] Of course, the speedy trial guarantee does not *eliminate* such anxiety entirely, including because the right cannot "be quantified into a specified number of days or months."[109] But it is an important constitutional *limitation* on anxiety.

Similar concerns have animated the Court's double jeopardy jurisprudence.[110] In the Court's words, the "underlying idea" of the Double Jeopardy Clause, an idea

> that is deeply ingrained in at least the Anglo-American system of jurisprudence, is that the State with all its resources and power should not be allowed

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100. The description of "anxiety" as a constitutional injury is not entirely limited to criminal procedure. The concept has also surfaced, for example, in the context of First Amendment retaliation. *See, e.g.*, Suppan v. Dadonna, 203 F.3d 228, 233 (3d Cir. 2000) (holding that "a campaign of harassment, including threatening statements and culminating in a retaliatory low ranking that purports to be based on an assessment of the plaintiffs' qualifications, and that results in 'mental anxiety, . . . stress, humiliation, loss of reputation, and sleeplessness,' is . . . actionable [as a] First Amendment [injury]"); *see also* Davis v. Vill. Park II Realty Co., 578 F.2d 461, 463 (2d Cir. 1978). The *Davis* court stated:

> Davis' complaint, as amended, alleges that the defendants attempted to terminate her lease because of her membership in, and her leadership activities on behalf of, the tenants' association. The complaint further alleges that the attempt to terminate the lease was designed to chill her First Amendment rights and that it in fact had that effect. The threat of eviction is alleged to have caused anxiety, distress and hardship. These allegations are sufficient to ensure that the requisite case or controversy exists.

Davis, 578 F. 2d at 463.

101. The Sixth Amendment provides, "In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial . . . ." U.S. CONST. amend. VI.

102. Klopfer v. North Carolina, 386 U.S. 213, 226 (1967).

103. Vermont v. Brillon, 556 U.S. 81, 89 (2009) (quoting Barker v. Wingo, 407 U.S. 514, 522 (1972)).

104. *Barker*, 407 U.S. at 521.

105. *See* Strunk v. United States, 412 U.S. 434, 440 (1973).

106. *See Barker*, 407 U.S. at 534 (recognizing that the defendant "did not want a speedy trial").

107. *Id.* at 532.

108. *Id.* at 527; *see also* United States v. Marion, 404 U.S. 307, 320 (1971) ("Arrest is a public act that may seriously interfere with the defendant's liberty, whether he is free on bail or not, and that may disrupt his employment, drain his financial resources, curtail his associations, subject him to public obloquy, and create anxiety in him, his family and his friends.").

109. *Barker*, 407 U.S. at 523.

110. The Fifth Amendment provides, "No person shall be . . . subject for the same offense to be twice put in jeopardy of life or limb . . . ." U.S. CONST. amend. V.

> to make repeated attempts to convict an individual for an alleged offense, thereby subjecting him to embarrassment, expense and ordeal and compelling him to live in a continuing state of anxiety and insecurity.[111]

This anti-anxiety principle has assisted the Court in drawing lines. The case law is clear, for example, that double jeopardy protection generally does not attach to the state's appeal of a sentence—even if that process presumably does, in some cases, prolong a defendant's anxiety.[112] But the Court has exempted capital sentencing from this general rule.[113] Because sentencing in capital cases involves a fact-finding ordeal that is functionally similar to the ordeal of trial, the "embarrassment, expense and . . . anxiety" provoked by a capital sentencing proceeding is "at least equivalent to that faced by any defendant at the guilt phase."[114]

Thus, double jeopardy is another important constitutional limitation on anxiety. Of course, given the Court's jurisprudence of dual sovereigns,[115] the enormous number of crimes that today exist at both the state and federal levels,[116] and the Court's narrow conception of "same offense,"[117] double jeopardy plays a relatively narrow—if still critical—role in the federal system. In the wonderful words of Joshua Dressler and George Thomas, "[w]hat was once a formidable bar to

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111. Green v. United States, 355 U.S. 184, 187 (1957).

112. *See* United States v. DiFrancesco, 449 U.S. 117, 136 (1980). The Court stated:

> We have noted . . . the basic design of the double jeopardy provision, that is, as a bar against repeated attempts to convict, with consequent subjection of the defendant to embarrassment, expense, anxiety, and insecurity, and the possibility that he may be found guilty even though innocent. These considerations, however, have no significant application to the prosecution's statutorily granted right to review a sentence.

Id.

113. *See* Bullington v. Missouri, 451 U.S. 430, 446 (1981).

114. *Id.* at 445. The Court also argued that double jeopardy protection is warranted due to "the unacceptably high risk that the prosecution, with its superior resources, would wear down a defendant . . . if the State were to have a further opportunity to convince a jury to impose the ultimate punishment." *Id.*at 445–46. *But see* Sattazahn v. Pennsylvania, 537 U.S. 101, 108–09 (2003) (holding that double jeopardy protection does not restrict resentencing when the defendant has never been "acquitted" of a death sentence). Several Justices in *Sattazahn* would have restricted the broader *Bullington* rule to these grounds. *See Sattazahn*, 537 U.S. at 110–13 (Scalia, J., joined by Rehnquist, C.J. and Thomas, J.).

115. *See* Moore v. Illinois, 55 U.S. 13, 18–20 (1852) (articulating the dual sovereignty principle); Bartkus v. Illinois, 359 U.S. 121, 138–39 (1959) (permitting a state prosecution following a federal prosecution); Abbate v. United States, 359 U.S. 187, 196 (1959) (permitting a federal prosecution following a state prosecution); United States v. Wheeler, 435 U.S. 313, 330–32 (1978) (permitting a federal prosecution following a Native American prosecution); Heath v. Alabama, 474 U.S. 82, 93 (1985) (permitting a state prosecution following that of another state). *But see* Waller v. Florida, 397 U.S. 387, 394–95 (1970) (holding that a municipality is not a separate sovereign from its state); Puerto Rico v. Sanchez Valle, 136 S. Ct. 1863, 1876–77 (2016) (holding that Puerto Rico is not a separate sovereign from the United States government).

116. If you do not trust us, we dare you to try and count! And, when counting, do not forget that many crimes are buried in regulatory provisions.

117. *See* Blockburger v. United States, 284 U.S. 299, 304 (1932) (articulating what becomes, at least for now, a constitutional limitation on subsequent trials); Brown v. Ohio, 432 U.S. 161, 169–70 (1977) (applying the limitation to bar a second prosecution); Missouri v. Hunter, 459 U.S. 359, 368–69 (1983) (not having to decide the limitation in the context of a single prosecution).

government excess has now become largely a parlor game in which we pretty much know that the defendant will lose unless the prosecutor or judge makes a serious error."[118] But within this narrow role, the Court continues to use double jeopardy principles to limit anxiety.[119]

Naturally, the Court has also missed some opportunities to recognize the constitutional salience of anxiety. To mention just one, in *United States v. White*, a majority of the Court equated law enforcement recording—that is, using a device to record a conversation, instead of simply committing it to memory—with traditional law enforcement listening.[120] Justice Douglas memorably dissented, arguing that "to equate the two is to treat man's first gunpowder on the same level as the nuclear bomb."[121] We agree with Douglas, and anxiety helps to explains why: the person recorded is anxious not only that the recording will be properly admitted against her in a court of law—an anxiety at least much lessened for the innocent—but is moreover anxious that the recording will be improperly leaked or accessed, potentially at a much later date, including its embarrassing or stigmatizing but *non*-criminal aspects.

What unifies the Court's disparate invocations of anxiety is concern about the potential use of state power. In the speedy trial, double jeopardy, and administrative search domains—as in *Birchfield*—the Court worries, rightly, that undesirable psychological effects flow from the mere *possibility* that law enforcement authorities will interfere with our lives. In a legal system typically fixated on concrete injuries, this is a profoundly important point. If law enforcement hangs a Sword of Damocles over your head—in fact, regardless of whether they actually do so, even if you simply *believe* that a Sword of Damocles is hung over your head—your inner world changes, and likely your behavior does too. By highlighting these similarities and the Court's most recent invocation in *Birchfield*, we hope to encourage courts to be even more cognizant of these potential harms going forward.

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118. JOSHUA DRESSLER & GEORGE C. THOMAS III, CRIMINAL PROCEDURE: PRINCIPLES, POLICIES AND PERSPECTIVES 1343 (5th ed. 2013).

119. In the Fourth Amendment context, the Court has also relied on an "anti-anxiety" logic to justify the distinction between administrative searches (programmatic investigative techniques that serve a non-law enforcement purpose, and therefore require no particularized suspicion) and traditional investigative searches (which do, of course, require particularized suspicion). In *Delaware v. Prouse*, for example, the Court considered whether police may perform suspicionless traffic stops to verify driver's licenses and vehicle registrations. 440 U.S. 648, 650 (1979). The government defended the program on the theory that its core purpose was administrative; the idea was to encourage compliance with license-and-registration laws, not to investigate criminal activity. *Id.* at 658–59. The Court disagreed, holding that such stops cut too close to the bone of run-of-the-mill police work: random administrative stops, just like traditional investigative stops, "interfere with freedom of movement, are inconvenient, . . . consume time [and] create substantial anxiety" for drivers. *Id.* at 657; *see also* Illinois v. Lidster, 540 U.S. 419, 425 (2004) (permitting purely "informational" traffic checkpoints on the same "inconvenience and anxiety" theory); Mich. Dep't of State Police v. Sitz, 496 U.S. 444, 455 (1990) (holding the same for sobriety checkpoints); Indianapolis v. Edmond, 531 U.S. 32 (2000) (refusing to extend the logic to checkpoints designed to interdict illegal drugs).

120. 401 U.S. 745, 751 (1971).

121. *Id.* at 756 (Douglas, J., dissenting).

B. The "Closed-Door" Problem

The second setting in which the Court has associated law enforcement power with anxiety is custodial interrogation. Here the association was implicit, but also more analogous to *Birchfield*, insofar as the association spurred a new rule of criminal procedure. In *Miranda v. Arizona*, the Court held that an arrested person in custody "must . . . be informed in clear and unequivocal terms that he has the right to remain silent" and "that he has the right to consult with a lawyer and to have the lawyer with him during interrogation."[122] It is not hard to see how this information could, in a meaningful if not sufficient sense, reduce a detainee's anxiety. But by inquiring into the genesis of the rule, we can even better understand why the *Miranda* Court believed the Fifth Amendment's privilege against self-incrimination required such safeguards, and thus why the Fourth Amendment rights might sometimes require the same.

The road to *Miranda* began at least as far back as 1897, when the Supreme Court decided a case of murder on the high seas in *Bram v. United States*.[123] Someone on board the ship *Herbert Fuller* used an ax to brutally murder the captain, the captain's wife, and the second mate.[124] Bram, the first mate, was on watch on the deck at the time of the killings, and was summoned by a passenger who heard a scream and discovered the carnage.[125] Despite there being no physical evidence implicating Bram, and despite his only coming under any suspicion after another sailor arrested for the offense (Brown) claimed to have witnessed Bram committing the crime, Bram was arrested and, when the ship reached port, questioned:[126]

> I said to him: "Bram, we are trying to unravel this horrible mystery."
>
> I said: "Your position is rather an awkward one. I have had Brown in this office, and he made a statement that he saw you do the murder." [Bram] said: "He could not have seen me. Where was he?"
>
> I said: "He states he was at the wheel."
>
> "Well," [Bram] said, "he could not see me from there."[127]

Did Bram just confess to the killings? Almost surely not, as the interrogation continued as follows:

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122. 384 U.S. 436, 467–68, 471 (1966).

123. 168 U.S. 532, 534 (1897).

124. *Id.* at 534–36.

125. *Id.* at 535.

126. *Id.* at 536–37. Some allege there was other circumstantial evidence implicating Bram. *See Fiction Becomes Fact*, NEW ENGLAND HISTORICAL SOC'Y, http://www.newenglandhistoricalsociety.com/fiction-becomes-fact-murder-herbert-fuller/ (last visited Sept. 6, 2017). Whatever the case, Bram was ultimately pardoned by President Woodrow Wilson. *Id.*

127. *Bram*, 168 U.S. at 539.

> I said, "Now, look here, Bram, I am satisfied that you killed the captain from all I have heard from Mr. Brown. But some of us here think you could not have done all that crime alone. If you had an accomplice, you should say so, and not have the blame of this horrible crime on your own shoulders."
>
> [Bram] said: "Well, I think, and many others on board the ship think, that Brown is the murderer; but I don't know anything about it."[128]

That was the entirety of their conversation.[129] So, Bram was *not* confessing (*i.e.*, "he could not see me [kill them] from there"), but instead was presumably disputing that Brown could even see Bram about his duties from Brown's location at the wheel. Nonetheless, Bram's words were introduced as an *inferential* confession and, along with Brown's testimony, it resulted in a death sentence for Bram.[130]

The Supreme Court reversed that conviction, allegedly because "a confession, in order to be admissible, . . . must not be extracted by any sort of threats or violence, nor obtained by any direct or implied promises, however slight."[131] Considering the above conversation, this outcome is remarkable by modern standards and certainly would not be repeated today on this ground.[132] As argued by Justice Brewer in dissent, "[i]n [Bram's interrogation] there is nothing which by any possibility can be tortured into a suggestion of threat or a temptation of hope."[133] So, what motivated the reversal?

In part, the *Bram* majority had a very different sense of appropriate police interrogation than do modern courts.[134] But there was another concern as well: Bram may not have realized he had a Fifth Amendment right not to incriminate himself.[135] This would of course become a key concern of the 1966 *Miranda*

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128. *Id.*

129. *Id.* ("Q. Anything further said by either of you? A. No; there was nothing further said on that occasion.").

130. *Id.* at 534. In what would be a deplorable move, on appeal the prosecution seems to have flipped to arguing that admission of the statement could not be prejudicial because it was not incriminating. *See id.* at 541–42. The prosecution proceeded only on one killing, presumably so it could have a second and third bite at the apple if the jury did not convict (*see id.* at 537), and it successfully objected to seemingly relevant cross examination of the detective (*see id.* at 540, 565). When a defendant raises over sixty claims of error (*see id.*), most are often bogus—tossing darts—but perhaps not in this case.

131. *Id.* at 542–43.

132. *See* Arizona v. Fulminante, 499 U.S. 279, 285 (1991) ("[I]t is clear that this passage from *Bram* . . . under current precedent does not state the standard for determining the voluntariness of a confession . . . .").

133. *Bram*, 168 U.S. at 570 (Brewer, J., dissenting). The majority was equally adamant: "A plainer violation as well of the letter as of the spirit and purpose of the constitutional immunity could scarcely be conceived of." *Id.* at 564 (majority opinion).

134. *See id.* at 556 (majority opinion) (going so far as to express doubt whether police interrogation can ever result in a voluntary statement); *id.* at 552–53, 559–60 (gathering examples of statements deemed involuntary).

135. To the Court majority:

> It cannot be doubted that, placed in the position in which [Bram] was when the statement was made to him that the other suspected person had charged him with crime, the result was to produce upon his mind the fear that if he remained silent it would be considered an admission of guilt, and therefore render certain his being committed for trial as the guilty person; and it cannot be

Court, which reversed a rape conviction that was anchored by a confession obtained by a perhaps innocuous two-hour interrogation.[136] Going forward, the Court required police give the now-famous warnings, including that "[the arrestee] must first be informed in clear and unequivocal terms that he has the right to remain silent."[137] Such a warning works a partial lessening of anxiety, if nothing else reassuring a detainee that the officers holding him acknowledge that they are subject to constitutional restraints.

But *why* was the *Miranda* Court—and the *Bram* Court before it—so concerned about custodial interrogation? Because neither the Court nor any jury could really know what took place in that interrogation: "Interrogation . . . takes place in privacy. Privacy results in secrecy and this in turn results in a gap in our knowledge as to what in fact goes on in the interrogation rooms."[138] So, even though involuntary confessions were already inadmissible,[139] the very nature of traditional custodial interrogation is such that courts cannot reliably make that determination ex post. In other words, custodial interrogation is a form of closed-door policing. Perhaps Bram's questioning was every bit as innocuous as was presented during trial, but perhaps its character was altogether different.[140] In the absence of certain knowledge, the *Miranda* Court thus infamously canvassed police training manuals to appreciate and articulate the types of psychological pressure and trickery an interrogation might include.[141]

Miranda warnings would ultimately come to be seen as constitutionally required prophylactic rules that go beyond the Fifth Amendment's textual protections.[142]

> conceived that the converse impression would not also have naturally arisen, that by denying there was hope of removing the suspicion from himself.

Id. at 562. In other words, so far as anyone could know, Bram may have felt compelled to speak because he was unaware that he could remain silent without that very silence condemning him.

> Before such an examination could be received in evidence it must appear that the accused was made to understand that it was optional with him to give a statement. The reason upon which this rule rested undoubtedly was, that the mere fact of the magistrate's taking the statement . . . might, unless he was cautioned, operate upon the mind of the prisoner to impel him involuntarily to speak.

Id. at 550 (internal citation omitted).

136. Miranda v. Arizona, 384 U.S. 436, 439 (1966) ("[W]e deal with the admissibility of statements obtained from an individual who is subjected to custodial police interrogation and the necessity for procedures which assure that the individual is accorded his privilege under the Fifth Amendment to the Constitution not to be compelled to incriminate himself.").

137. *Id.* at 467–68.

138. *Id.* at 448.

139. *See Bram*, 168 U.S. at 542–43, 548–49; Spano v. New York, 360 U.S. 315, 320–23 (1959).

140. *See Bram*, 168 U.S. at 538 ("[N]o one was present besides Bram and the [detective].").

141. *Miranda*, 384 U.S. at 448–55.

142. *See* Dickerson v. United States, 530 U.S. 428, 444 (2000) (explaining and holding constitutional this framework); Gray, *supra* note 10, at 432–33. In Gray's view:

> Although the Court has admitted that these prophylactic measures cannot be derived directly from the text of the Fifth Amendment, it nevertheless maintains that *Miranda* warnings are constitu-

But the key insight for our purposes is that closed-door policing raises special concerns that sometimes require constitutional—or even extra-constitutional—rules.

Reenter *Birchfield*. Here, too, the Court was concerned with the "closed-door" problem, in this case the storage and potential testing of evidence. Not only do we typically have no *control* over what police do with material in their evidence rooms; we typically lack even basic *knowledge* about what happens there. We are, in short, entirely dependent upon an officer's word (or the word of multiple officers, as the case may be). It is this lack of knowledge that makes it reasonable to worry about the extraction of "information beyond a simple BAC reading."[143] After all, "[e]ven if the law enforcement agency is precluded from" doing so, "the potential remains and may result in anxiety for the person tested."[144] Indeed, at some level, the situation is even worse than that of interrogation, where at least in theory the arrestee can herself describe police tactics to a jury or court. There is nobody in the police evidence room. Nobody but police themselves, that is. The *Birchfield* Court recognized—and reacted to—a problem of closed-door policing.

C. The Big Picture: Supervision of Data-Driven Policing

In recent years, the Supreme Court has become increasingly interested in the Fourth Amendment implications of evolving policing technology. In *United States v. Jones*, the Court unanimously—though under different theories—rejected the government's position that there was no Fourth Amendment restraint on certain GPS tracking of vehicles.[145] More recently, in *Riley v. California*, the Court unanimously rejected the government's position that the Fourth Amendment permitted warrantless searches of cell phones as a contemporaneous incident of lawful arrest.[146] And most recently, in *Carpenter v. United States*, the Court has granted certiorari to determine whether the Fourth Amendment restricts law enforcement access to cell site location information.[147]

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tional because they prescribe a prospective remedial structure that is effective in addressing constitutional concerns, are readily enforceable by courts and law enforcement agencies, and are parsimonious with respect to their impact on legitimate law enforcement pursuits.

Id. Perhaps it would have been better had *Miranda* been an opinion required by the Due Process Clauses: given the enormous investigatory powers of the State and a history of abuses therewith, and given the fear these understandably engender in the populace, it is fundamentally unacceptable for a citizen to have no way to terminate an unwanted—and potentially terrifying—interrogation.

143. Birchfield v. North Dakota, 136 S. Ct. 2160, 2178 (2016).

144. *Id.*

145. 565 U.S. 400, 404 (2012); *see also Stephen E. Henderson, After* United States v. Jones, *After the Fourth Amendment Third Party Doctrine*, 14 N.C. J. L. & TECH. 431, 447–55 (2013) [hereinafter *After* United States v. Jones] (describing the different opinions).

146. 134 S. Ct. 2473, 2494–95 (2014). Justice Alito again wrote separately in *Riley*, but in his reasoning he did not fundamentally disagree with that of the majority. *See id.* at 2495 (Alito, J., concurring in the judgment); *see also* Henderson, *Time Machines*, *supra* note 51, at 948–51 (describing the case and the majority's opinion).

147. *See* Carpenter v. United States, 137 S. Ct. 2211 (2017) (granting certiorari).

Birchfield is part of this arc. We all know that an incredible amount of information is stored in our genome, and hence in our blood; indeed, nobody knows the precise boundaries of what information that might contain. And so, when police sought warrantless access to a blood sample that would unlock that chest, the Court took notice and reasserted the need for judicial supervision: a police officer can obtain that information-rich sample, but she must first give a court the opportunity to decide whether access is appropriate in the particular case and, in our view, to decide what restraints should be placed upon that access and use. On this view, *Birchfield* can be read as a re-affirmation of a fundamental principle: when privacy and liberty norms are in flux, as they currently are given recent and rapid technological change, police *should* seek the assistance of legislatures in governing investigatory methods,[148] and they *must* seek the approval of courts.

If legislatures were to step up, what might be the ideal solution? If we think back to *Miranda* for a moment, current technology offers a solution to what we have identified as the Court's "closed-door" concerns: all custodial interrogations can—and should—be videotaped in their entirety.[149] Doing so would allow courts and juries to discern, albeit within the limits of any recording perspective, what took place.[150] Similarly, evidence retained by the police could be subject to robust access controls and immutable logging that would constrain, if not entirely eliminate, reasonable fear of misuse. The more transparent is policing, the less reasonable becomes fear of abuse. As described above, such restraints could be included in a "*Birchfield* warrant."[151]

CONCLUSION

Fifty years ago, in *Katz v. United States*, the Supreme Court defined Fourth Amendment coverage in terms of the now-famous "reasonable expectation of

148. Justice Alito has been particularly active in urging legislative involvement. *See Riley*, 134 S. Ct. at 2497–98 (Alito, J., concurring in the judgment); *Jones*, 565 U.S. at 429–30 (Alito, J., concurring in the judgment).

149. Some progress is being made in this regard, though it is too slow. *See False Confessions & Recording Of Custodial Interrogations*, INNOCENCE PROJECT, https://www.innocenceproject.org/false-confessions-recording-interrogations/ (last visitied Apr. 6, 2017); *Custodial Interrogation Recording Compendium by State*, NAT. ASS'N OF CRIM. DEF. LAW., https://www.nacdl.org/usmap/crim/30262/48121/d (last visited Apr. 6, 2017).

150. A well-known example is the recording of the interrogation of McConnell Adams, Jr. *See* People v. Adams, 627 N.W.2d 623, 625–28 (Mich. Ct. App. 2001).

151. *See supra* Part II.B. Similarly, although it is hard to imagine that technology could entirely eliminate—or even do much—for the problems of Speedy Trial or Double Jeopardy, technology might facilitate progress on certain "Sword of Damocles" events. For example, special-needs roadblocks reduce, but do not eliminate, the anxiety involved in an automobile stop. That anxiety might be further lessened by technologies that accurately detect evidence of intoxication. If a roadblock were thereby fully automated, there would seem less reason to be anxious: whereas a police-citizen interaction might negatively escalate for any number of reasons—including because of invidious bias, fatigue, or pretext—ideally, human programmed machines could be without those frailties.

privacy" criterion.[152] In so doing, however, the Court failed to establish specific benchmarks of privacy, and that indeterminacy has defined Fourth Amendment law ever since. Ultimately, the problem, one might say, is methodological. The *Katz* Court did not explain whether the enterprise of assessing expectations of privacy was meant to be empirical (what do people *actually* expect?), normative (what are people in a liberal democracy *entitled* to expect?), or some combination of the two. The ambiguity persists to this day.[153]

Of course, ambiguity in the definition of fundamental rights is not necessarily lamentable. There are drawbacks to molding novel constitutional doctrine too quickly, and it is important to remember that *Katz*'s most important contribution was to move explicitly away from a solely "property"- or "trespass"-focused idea of privacy—an idea that had tripped up the Court in earlier case law, most infamously when the Court declared there was no constitutional regulation of wiretapping.[154] *Katz* fixed this, and rightly so. Thus, in 1967, it was enough that, whatever precisely constitutes a reasonable expectation of privacy, it exists in a telephone conversation.

Shortly thereafter, in what surely seemed like a small step—and a step that seems defensible as to the particular conversations at issue if not to the government action of injecting a mole—the Court began in *United States v. White*[155] to conflate privacy and secrecy, which really took hold in *United States v. Miller* (bank records)[156] and *Smith v. Maryland* (phone dialing records).[157] If the Court was judiciously cautious in *Katz*, it was injudiciously cavalier in *Miller*, declaring that "the Fourth Amendment does not prohibit the obtaining of information revealed to [any] third party and conveyed by [that party] 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."[158]

What was not especially derelict in a single opinion in 1967, thus became hopelessly misguided long before 2017, so much so that even the Court refused to apply the so-called "third party doctrine" to its letter, opting to either alter or ignore the doctrine sub silentio whenever difficult cases came along.[159] But like other

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152. 389 U.S. 347, 360 (1967) (Harlan, J., concurring).

153. There are also potential circularity problems in the *Katz* formulation, though they have often been exaggerated. *See* Lior Strahilevitz & Matthew B. Kugler, *The Myth of Fourth Amendment Circularity*, 84 U. CHI. L. REV. (forthcoming 2017) (on file with authors).

154. *See* Olmstead v. United States, 277 U.S. 438, 457–66 (1928).

155. 401 U.S. 745 (1971).

156. 425 U.S. 435 (1976).

157. 442 U.S. 735 (1979).

158. *Miller*, 425 U.S. at 443.

159. *See* Henderson, *After* United States v. Jones, *supra* note 145, at 431; Stephen E. Henderson, *The Timely Demise of the Fourth Amendment Third Party Doctrine*, 96 IOWA L. REV. BULL. 39 (2011); *see also* Stephen E. Henderson, *A Rose by Any Other Name: Regulating Law Enforcement Bulk Metadata Collection*, 94 TEX. L. REV. 28, 32–36 (2016) (explaining the Court's "limited" third party doctrine); Kiel Brennan-Marquez, *Fourth Amendment Fiduciaries*, 84 FORDHAM L. REV. 611 (2015) (arguing that, contra the plain language of *Smith* and

critical scholars, we took hope from 2012's unanimous end to unregulated longer-term, physical GPS monitoring,[160] and from 2014's unanimous end to warrantless searches of cell phones and other computers incident to arrest.[161] We are hopeful the Court will soon limit the third party doctrine by providing some protection to cell site location records.[162]

And we take hope from the 2016 *Birchfield* decision. The Court's recognition of anxiety as a legitimate harm of interest to the Fourth Amendment correlates with modern privacy scholarship.[163] Specifically, the Court was right to consider reasonable anxiety of future law enforcement abuse in formulating the Fourth Amendment collection rule, and lower courts should follow course when considering law enforcement retention of other information-rich evidence, like computer hard drives.[164] Such acquisition and retention raise the "Sword of Damocles" effect, in that a person never knows when examination will occur—it could occur any day, it could not occur for a lifetime—as well as the inherent risks of "Closed-Door Policing." Furthermore, legislatures and administrative agencies would be right, in turn, to look for ways in which technology could bring reliable transparency to such policing, encouraging rule compliance without the need for cumbersome legal restrictions.

At its best, information technology promises to substantially refine policing. But this refinement effort should not come at the cost of widespread anxiety, or of corresponding losses in privacy. Nor—as *Birchfield* makes clear—need it.

Miller, Fourth Amendment law incorporates fiduciary-style restrictions on certain information flows between third-parties and law enforcement).

160. *See* United States v. Jones, 565 U.S. 400, 404 (2012).

161. *See* Riley v. California, 134 S. Ct. 2473, 2495 (2014).

162. *See* Carpenter v. United States, 137 S. Ct. 2211 (2017) (granting certiorari).

163. *See* Daniel J. Solove & Danielle Keats Citron, *Risk and Anxiety: A Theory of Data Breach Harms*, 96 TEX. L. REV. (forthcoming 2017) (persuasively arguing that the anxiety resulting from data breaches should be sufficient to constitute harm necessary for federal standing and other purposes).

164. *See* Henderson, *Time Machines*, *supra* note 51, at 944–48 (discussing the Second Circuit *Ganias* case).