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# Regulating Drones under the First and Fourth Amendments

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## REGULATING DRONES UNDER THE FIRST AND FOURTH AMENDMENTS

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### ABSTRACT

*The FAA Modernization and Reform Act of 2012 requires the Federal Aviation Administration to integrate unmanned aerial vehicles (UAVs), or drones, into the national airspace system by September 2015. Yet perhaps because of their chilling accuracy in targeted killings abroad, perhaps because of an increasing consciousness of diminishing privacy more generally, and perhaps simply because of a fear of the unknown, divergent UAV-restrictive legislation has been proposed in Congress and enacted in a number of states. Given UAV utility and cost-effectiveness over a vast range of tasks, however, widespread commercial use ultimately seems certain. Consequently, it is imperative to understand the constitutional restraints on public flight and constitutional protections afforded to private flight. Unfortunately, although there are a few Fourth Amendment precedents in manned aviation, they are mired not only in 1980s technology but also in the 1980s third party doctrine, and*

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*therefore do not reflect more recent Fourth Amendment developments and doctrinal fissures. There is also considerable uncertainty over First Amendment protection of information-gathering—for example, is there a right to record? Further, there is no judicial or scholarly analysis of how UAV flight fits within contemporary First Amendment forum doctrine, a framework that provides a useful starting point for analyzing speech restrictions in government-controlled airspace, but that comes with some uncertainties of its own. It is into this thicket that we dive, and fortunately some clarity emerges. Although the Fourth Amendment third party doctrine hopelessly misunderstands privacy and therefore under-protects our security and liberty interests, the Supreme Court's manned flyover cases can be mined for a sensible public disclosure doctrine that seems agnostic as to the various Fourth Amendment conceptions: we do not typically require only law enforcement to shield its eyes. Of course, both constitutions and legislation can place special restrictions upon law enforcement, and sometimes doing so makes good sense. But as a general Fourth Amendment matter, the officer may do and see as the citizen would. Hence to understand Fourth Amendment regulation, we must understand how the First Amendment limits government restraint on speech-relevant private UAV flight. Here we analyze the developing right to record and apply contemporary forum doctrine to this novel means of speech and information-gathering. If navigable airspace is treated as a limited public forum, as we propose with some qualification, then the Federal Aviation Administration will have significant—though not unlimited—regulatory leeway to even-handedly burden speech-related UAV activities where doing so would reasonably promote safe unmanned and manned flight operations. The Agency, however, would likely need further congressional action before it can restrict UAV flight based on privacy rather than safety concerns. As the legality and norms of private flight correspondingly take shape, they will inform Fourth Amendment restrictions on government use.*

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## INTRODUCTION

The history of aviation is intimately tied to human aggression and defense. Hot air balloons were invented in the eighteenth century with the hopes of storming the fortress at Gibraltar,<sup>1</sup> after which observation balloons were used during the American Civil War and other nineteenth-century conflicts.<sup>2</sup> Indeed, Union and Confederate forces (ineffectively) attempted to bomb each other with explosives tethered to unmanned balloons.<sup>3</sup> Wilbur and Orville Wright became the first successful aircraft pilots in 1903, but the American War Department had already been funding Samuel Langley's parallel but ultimately unsuccessful efforts.<sup>4</sup> The first time that aircraft were used on a large scale was the "Great War," or World War I, and although there were pre-war forays, it was only after the war that civilian flight for airmail became commonplace.<sup>5</sup> World War II made clear the essential function of aviation in modern warfare; Vietnam saw significant use of surveillance drones;<sup>6</sup> and Operation Desert Storm and other late twentieth-century conflicts demonstrated the contemporary utility and efficacy of airpower.<sup>7</sup>

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1. See Teju Cole, *The Unquiet Sky*, N.Y. TIMES (July 22, 2015), <http://www.nytimes.com/2015/07/26/magazine/the-unquiet-sky.html> [<http://perma.cc/5TAA-CCRG>].

2. See *Civil War Ballooning: Interesting Facts and Frequently Asked Questions*, CIVIL WAR TRUST, <http://www.civilwar.org/education/history/civil-war-ballooning/civil-war-ballooning.html> [<http://perma.cc/C6DS-LFW6>] (last visited Sept. 27, 2015).

3. See Jim Garamone, *From U.S. Civil War to Afghanistan: A Short History of UAVs*, DoD News, U.S. DEP'T DEF. (Apr. 16, 2002), <http://www.defense.gov/news/newsarticle.aspx?id=44164> [<http://perma.cc/R9WV-USQN>].

4. See *1903—The First Flight*, NAT'L PARK SERV., <http://www.nps.gov/wrbr/learn/historyculture/thefirstflight.htm> [<http://perma.cc/29QG-57EF>] (last visited Sept. 27, 2015).

5. See *A Brief History of the FAA*, FED. AVIATION ADMIN. [FAA], [http://www.faa.gov/about/history/brief\\_history/](http://www.faa.gov/about/history/brief_history/) [<http://perma.cc/P85S-XMYT>] (last modified Feb. 19, 2015) [hereinafter FAA, *Brief History*]. Humorously—and perhaps tellingly as new technologies often stumble—the first scheduled airmail, which included a letter deposited personally by President Wilson, flew the wrong direction and so not only did not arrive as expected, but overturned in the process. See *The First Day of Airmail, 1918*, AIR & SPACE, <http://www.airspacemag.com/videos/category/history-of-flight/the-first-day-of-airmail-1918/> [<http://perma.cc/R8BN-5H7Y>] (last visited Sept. 27, 2015).

6. See Garamone, *supra* note 3.

7. See U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-97-134, OPERATION DESERT STORM: EVALUATION OF THE AIR CAMPAIGN 2 (1997), <http://www.gao.gov/archive/1997/ns97134.pdf> [<http://perma.cc/S5XY-GQBZ>]; Lt. Col. Price T. Bingham, *Air Power in Desert Storm and the Need for Doctrinal Change*, AIRPOWER J. (Winter 1991), <http://www.airpower.maxwell.af.mil/>

And so it is that while unmanned aerial vehicles (UAVs), or drones,<sup>8</sup> had their genesis in Civil War balloons and World War I-era “aerial torpedoes,” and conducted their first surveillance operations during World War II,<sup>9</sup> they came into their own during the more recent wars against terrorism, including most infamously General Atomic’s Hellfire-equipped Predator.<sup>10</sup> The Predator’s image is so prominent that when one of us chaired a panel on the privacy and social implications of stateside drones in 2013, a topic as far from military application as can be, an industry publication ran a short blurb accompanied by a photograph of a missile-toting Predator, and that graphic was supplemented with a polished gray human skull.<sup>11</sup> Obviously it can be difficult to detach our perceptions of drones from these awesome and controversial killing machines. It probably does not help that a generation was introduced to unmanned flight via science fiction like the Hunter-Killers of James Cameron’s *The Terminator*,<sup>12</sup> and that modern films—including the

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airchronicles/apj/apj91/win91/price.htm [http://perma.cc/CE8E-AR42].

8. A few different terms are used to describe unmanned aviation. An unmanned aerial system (UAS) includes components other than the vehicle, such as ground-based communications and controls. The Air Force and some others prefer “remotely piloted aircraft” (RPA) to the term UAVs, because “RPA” emphasizes the role of a human flier, albeit one stationed on the ground. “UAV” and “drone” are synonymous as used in this Article, but we recognize that some think the term “drone” has an inappropriately negative connotation.

9. Kelsey D. Atherton, *The History of the Drone in 9 Minutes [Video]*, POPULAR SCI. (Nov. 24, 2014), <http://www.popsoci.com/watch-brief-history-drone> [http://perma.cc/6KS7-T92L] (describing the Kettering Bug). For an extensive history of unmanned flight, see generally JOHN DAVID BLOM, UNMANNED AERIAL SYSTEMS: A HISTORICAL PERSPECTIVE (2010), <http://usacac.army.mil/cac2/cgsc/carl/download/csipubs/op37.pdf> [http://perma.cc/TRW4-9KUF] and John Villaseñor, *Observations from Above: Unmanned Aircraft Systems and Privacy*, 36 HARV. J.L. & PUB. POL’Y 457, 462-64 (2013).

10. See Jane Mayer, *The Predator War*, NEW YORKER (Oct. 26, 2009), <http://www.newyorker.com/magazine/2009/10/26/the-predator-war> [http://perma.cc/3XHH-KDJC]; see also JEREMIAH GERTLER, CONG. RESEARCH SERV., R42136, U.S. UNMANNED AERIAL SYSTEMS (2012), <https://www.fas.org/sgp/crs/natsec/R42136.pdf> [http://perma.cc/Z8MQ-9UDU] (describing the various UAVs in use by the military).

11. See Courtney Howard, *Experts Address Information Privacy Concerns Related to Unmanned Aircraft Systems*, INTELLIGENT AEROSPACE (Mar. 27, 2013), <http://www.intelligent-aerospace.com/articles/2013/03/Expert-panel-UAS.html> [http://perma.cc/EG6K-CSCV].

12. See *H-K Aerial*, TERMINATOR WIKI, <http://terminator.wikia.com/wiki/HK-Aerial> [http://perma.cc/ZCF4-ZY9S] (last visited Sept. 27, 2015). For those who are not current on their *Terminator* references:

All stealth bombers are upgraded with Cyberdyne computers, becoming fully unmanned. Afterwards, they fly with a perfect operational record. The Skynet Funding Bill is passed. The system goes online on August 4th, 1997. Human

2015 *Terminator Genisys*—continue to depict drone killing machines, both imagined and actual.<sup>13</sup>

But the reality is that just as manned flight today has far more civilian applications than military, there is a wide array of nonmilitary applications for UAVs: firefighting and disaster recovery, precision agriculture and ranching, pipeline and other utility inspection, weather forecasting, newsgathering, mapmaking, real estate, amateur and professional photography and videography, filmmaking, sports broadcasting, tourism, prevention of poaching and other unwanted behaviors, search and rescue, and shipping and transport.<sup>14</sup> Already there is a dizzying array of UAVs either in development or on the market, including UAVs powered by the sun,<sup>15</sup> UAVs as small as an insect,<sup>16</sup> UAVs with integrated cameras,<sup>17</sup>

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decisions are removed from strategic defense. Skynet begins to learn at a geometric rate. It becomes self-aware 2:14 AM, Eastern time, August 29th.

TERMINATOR 2: JUDGMENT DAY (TriStar Pictures 1991). When humans try to pull the plug, the machines start nuclear war to kill off humanity, and things do not get better from there. *Id.*

13. See *List of Films Featuring Drones*, WIKIPEDIA, [http://en.wikipedia.org/wiki/List\\_of\\_films\\_featuring\\_drones](http://en.wikipedia.org/wiki/List_of_films_featuring_drones) [<http://perma.cc/DB3L-BP28>] (last visited Sept. 27, 2015) (describing twenty-eight films featuring UAVs, including eleven films from 2014); Brian Truitt, *Movies Under Robot Attack from Chappie, Ultron*, USA TODAY (Mar. 4, 2015), <https://www.usatoday.com/story/life/movies/2015/03/03/chappie-robots-in-movies/24281915/> [<http://perma.cc/3N6J-Z9X9>] (“As artificial intelligence continues to emerge in society—think drones and self-driving cars—robots consequently are playing a bigger role in the cinematic world.”).

14. The Association for Unmanned Vehicle Systems International (AUVSI), an industry trade group, estimates the American UAV market could be \$82 billion for the decade running from 2015 to 2025. ASS’N FOR UNMANNED VEHICLE SYS. INT’L, THE ECONOMIC IMPACT OF UNMANNED AIRCRAFT SYSTEMS INTEGRATION IN THE UNITED STATES 2 (2013), [https://higherlogicdownload.s3.amazonaws.com/AUVSI/958c920a-7f9b-4ad2-9807-f9a4e95d1ef1/UploadedImages/New\\_Economic%20Report%202013%20Full.pdf](https://higherlogicdownload.s3.amazonaws.com/AUVSI/958c920a-7f9b-4ad2-9807-f9a4e95d1ef1/UploadedImages/New_Economic%20Report%202013%20Full.pdf) [<https://perma.cc/8NWQ-SHYQ>]. This is not to say, of course, that drones are necessarily always the most efficient way to complete a task. See Bill Theobald, *Report: Drone Patrol of Southern Border Ineffective, Costly*, USA TODAY (Jan. 6, 2015, 2:19 PM), <https://www.usatoday.com/story/news/nation/2015/01/06/drones-borderpatrol-immigration-drugs-homeland-security/21342141/> [<http://perma.cc/46VT-JHGM>] (discussing inspector general report critical of drone use in patrolling the US-Mexico border).

15. See *Solar Powered Drones: On a Bright New Wing*, ECONOMIST (Sept. 7, 2013), <https://www.economist.com/news/science-and-technology/21584962-small-remote-controlled-craft-powered-sun-are-taking-air> [<http://perma.cc/TQ5L-C8HL>].

16. See Adam Piore, *Rise of the Insect Drones*, POPULAR SCI. (Jan. 29, 2014, 9:00 AM), <http://www.popsoci.com/article/technology/rise-insect-drones> [<http://perma.cc/Y6RN-WNES>].

17. See, e.g., *Phantom 2: The Spirit of Flight*, DJI, <http://www.dji.com/product/phantom-2> [<http://perma.cc/W7QC-YHQX>] (last visited Sept. 27, 2015).

UAVs that can autonomously track a particular target,<sup>18</sup> UAVs that will provide Internet connectivity,<sup>19</sup> UAVs that take direction from the tilt of a user's phone,<sup>20</sup> and (of course) UAVs for taking selfies.<sup>21</sup> To proponents, UAVs promise to substantially ease work that is "dull, dirty, dangerous, or difficult."<sup>22</sup> But their promise is far greater, potentially democratizing a huge portion of the world—the skies—previously the exclusive domain of the few. Whereas hobbyists can fly some UAVs within their visual line of sight, and public agencies and universities can engage in some flights through a fairly cumbersome regulatory approval process, commercial use is currently prohibited absent an FAA exemption.<sup>23</sup> But Congress has mandated UAV integration into the American national airspace by

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18. See, e.g., David Pierce, *Throw This Camera Drone in the Air and It Flies Itself*, WIRED (May 12, 2015, 12:00 PM), [http://www.wired.com/2015/05/lily-robotics-drone/?mbid=nl\\_051215](http://www.wired.com/2015/05/lily-robotics-drone/?mbid=nl_051215) [<http://perma.cc/VGK7-E8XA>]; Hexo+: *The Action-Seeking Drone that Flies Itself*, BBC NEWS TECH., <http://www.bbc.com/news/technology-28014940> [<http://perma.cc/MU7N-TYLQ>] (last updated June 25, 2014, 11:56 AM); see also *The Robot Overhead*, ECONOMIST, Dec. 6, 2014, at 11.

19. See Kelsey D. Atherton, *Facebook Says Wi-Fi Drones Will Be Jumbo Jet-Sized*, POPULAR SCI. (Sept. 25, 2014, 1:50 PM), <http://www.popsi.com/article/technology/facebook-says-wi-fi-drones-will-be-jumbo-jet-sized> [<http://perma.cc/7T6G-NL97>].

20. See Jill Scharr, *Indiegogo-Funded Ghost Drone Has Scary-Good Tilt Controls*, TOM'S GUIDE (Jan. 8, 2015, 1:34 AM), <http://www.tomsguide.com/us/ghost-drone-specs-price,news-20240.html> [<http://perma.cc/8PZV-X8KF>].

21. See Greg Kumparak, *A Wearable Drone that Launches off Your Wrist to Take Your Selfie*, TECHCRUNCH (Sept. 28, 2014), <http://techcrunch.com/2014/09/28/a-wearable-drone-that-launches-off-your-wrist-to-take-your-selfie> [<http://perma.cc/3269-T44E>].

22. See Juliet Van Wagenen, *Transport Canada Fuels UAS Use Through Eased Regulations*, AVIONICS TODAY (Dec. 15 2014), [http://www.aviationtoday.com/av/topstories/Transport-Canada-Fuels-UAS-Use-through-Eased-Regulations\\_83753.html#.VSkxKlyUxAI](http://www.aviationtoday.com/av/topstories/Transport-Canada-Fuels-UAS-Use-through-Eased-Regulations_83753.html#.VSkxKlyUxAI) [<http://perma.cc/A9YL-6ND5>] (quoting Melanie Hinton, senior communications manager of the Association for Unmanned Vehicle Systems International). For a description of some such uses, see *The Robot Overhead*, *supra* note 18, at 11-12.

23. See *Unmanned Aircraft Systems*, FAA, <https://www.faa.gov/uas/> [<http://perma.cc/9ARQ-53PD>] (last modified Mar. 12, 2015) [hereinafter FAA, *Unmanned Aircraft Systems*]; *infra* notes 50-62 and accompanying text (describing divergent UAV rules). In 2014, the FAA made its first limited exception for a commercial use, namely for movie and television production. See Press Release, FAA, U.S. Transportation Secretary Foxx Announces FAA Exemptions for Commercial UAS Movie and TV Production (Sept. 25, 2014), [https://www.faa.gov/news/press\\_releases/news\\_story.cfm?newsId=17194](https://www.faa.gov/news/press_releases/news_story.cfm?newsId=17194) [<http://perma.cc/4BXK-JU93>]; Craig Whitlock, *FAA Said to Be Planning to Let Filmmakers Operate Drones in Populated Areas*, WASH. POST (Sept. 24, 2014), [http://www.washingtonpost.com/world/national-security/faa-said-to-be-planning-to-let-filmmakers-operate-drones/2014/09/24/cea7bc60-4415-11e4-b437-1a7368204804\\_story.html](http://www.washingtonpost.com/world/national-security/faa-said-to-be-planning-to-let-filmmakers-operate-drones/2014/09/24/cea7bc60-4415-11e4-b437-1a7368204804_story.html) [<http://perma.cc/33RZ-D7C3>].



September 30, 2015,<sup>24</sup> a desire spurred at least in part by such integration already underway in parts of Europe and Asia.<sup>25</sup> And on February 15, 2015, the Federal Aviation Administration (FAA) took a first step by issuing a notice of proposed rulemaking regarding small UAVs (those under fifty-five pounds).<sup>26</sup> So even if the September deadline is missed, as now seems likely, integration is inevitable.

To opponents and skeptics, apart from concerns about flight safety due to lost link, collision, and other scenarios,<sup>27</sup> UAVs threaten to usher in Orwellian, ubiquitous surveillance.<sup>28</sup> There is no doubt that some in law enforcement are interested in pervasive surveillance of public spaces,<sup>29</sup> at least when triggered by certain events or unrest,<sup>30</sup>

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24. FAA Modernization and Reform Act of 2012, Pub. L. No. 112-95, § 332(a)(3), 126 Stat. 11, 73 [hereinafter FMRA].

25. See Joan Lowy, *Other Countries Are Surpassing the US in Commercial Drone Flights*, PBS NEWSHOUR: THE RUNDOWN (Dec. 10 2014, 2:36 PM), <http://www.pbs.org/newshour/rundown/countries-surpassing-us-commercial-drone-flights/> [http://perma.cc/3GHE-PYLM].

26. See *Overview of Small UAS Notice of Proposed Rulemaking*, FAA, [http://www.faa.gov/regulations\\_policies/rulemaking/media/021515\\_sUAS\\_Summary.pdf](http://www.faa.gov/regulations_policies/rulemaking/media/021515_sUAS_Summary.pdf) [http://perma.cc/44A3-YDY4] (last visited Sept. 27, 2015) [hereinafter FAA, *Small UAS Notice*].

27. See, e.g., Craig Whitlock, *Near-Collisions Between Drones, Airlines Surge*, *New FAA Reports Show*, WASH. POST (Nov. 26, 2014), [http://www.washingtonpost.com/world/national-security/near-collisions-between-drones-airliners-surge-new-faa-reports-show/2014/11/26/9a8c1716-758c-11e4-bd1b-03009bd3e984\\_story.html](http://www.washingtonpost.com/world/national-security/near-collisions-between-drones-airliners-surge-new-faa-reports-show/2014/11/26/9a8c1716-758c-11e4-bd1b-03009bd3e984_story.html) [http://perma.cc/3ND4-A8UR]. Those flying drones do not always inspire confidence, as demonstrated by an email sent from an elementary school hoping to find their missing vehicle. See Wells Bennett, *Help an Elementary School Find Its Lost Drone*, LAWFARE (Jan. 7, 2015, 2:39 PM), <http://www.lawfareblog.com/help-an-elementary-school-find-its-lost-drone/> [http://perma.cc/VQB2-4AQ4]. Even the White House's perimeter defense, it appears, is not impervious to the drunken antics of an amateur drone operator. See Michael D. Shear & Michael S. Schmidt, *White House Drone Crash Described as a U.S. Worker's Drunken Lark*, N.Y. TIMES (Jan. 27, 2015), <http://www.nytimes.com/2015/01/28/us/white-house-drone.html> [http://perma.cc/6VY4-DBT5].

28. Ryan Calo was one of the first to predict that drones would spur serious privacy conversations. See M. Ryan Calo, *The Drone as Privacy Catalyst*, 64 STAN. L. REV. ONLINE 29, 29 (2011), [http://www.stanfordlawreview.org/sites/default/files/online/articles/64-SLRO-29\\_1.pdf](http://www.stanfordlawreview.org/sites/default/files/online/articles/64-SLRO-29_1.pdf) [http://perma.cc/75Q4-EGWY].

29. See, e.g., Conor Friedersdorf, *Eyes over Compton: How Police Spied on a Whole City*, ATLANTIC (Apr. 21, 2014, 8:18 AM), <http://www.theatlantic.com/national/archive/2014/04/sheriffs-deputy-compares-drone-surveillance-of-compton-to-big-brother/360954/> [http://perma.cc/2UCM-KCMQ].

30. See Jack Gillum et al., *FBI Confirms Wide-Scale Use of Surveillance Over U.S. Cities*, HUFFINGTON POST (June 2, 2015), [http://www.huffingtonpost.com/2015/06/02/fbi-surveillance-flights\\_n\\_7490396.html](http://www.huffingtonpost.com/2015/06/02/fbi-surveillance-flights_n_7490396.html) [http://perma.cc/AB66-4HMP]; Craig Timberg, *Surveillance Planes Spotted in the Sky for Days After West Baltimore Rioting*, WASH. POST (May 5, 2015), <http://www.washingtonpost.com/business/technology/surveillance-planes-spotted-in-the-sky-for->

and UAVs promise to make that economically feasible. As we and other scholars have recognized, cost is an important limitation on law enforcement activity, so when such resource restraints are removed or substantially lessened, there may be greater need for legal restraints.<sup>31</sup> The Pentagon has developed a 1.8 gigapixel drone camera that, flying at over 17,000 feet, can view an object as small as six inches, vacuum in a million terabytes of data per day, and track moving objects across an entire city,<sup>32</sup> giving rise to what in 1982 Judas Priest could only imagine in its dystopian “Electric Eye.”<sup>33</sup>

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days-after-west-baltimore-rioting/2015/05/05/c57c53b6-f352-11e4-84a6-6d7c67c50db0\_story.html [http://perma.cc/AZ6D-G3EH].

31. See *United States v. Jones*, 132 S. Ct. 945, 963-64 (2012) (Alito, J., concurring in the judgment); Stephen E. Henderson, *Nothing New Under the Sun? A Technologically Rational Doctrine of Fourth Amendment Search*, 56 MERCER L. REV. 507, 538-40 (2005).

32. Ryan Gallagher, *Could the Pentagon's 1.8 Gigapixel Drone Camera Be Used for Domestic Surveillance?*, SLATE (Feb. 6, 2013, 10:14 AM), [http://www.slate.com/blogs/future\\_tense/2013/02/06/argus\\_is\\_could\\_the\\_pentagon\\_s\\_1\\_8\\_gigapixel\\_drone\\_camera\\_be\\_used\\_for\\_domestic.html](http://www.slate.com/blogs/future_tense/2013/02/06/argus_is_could_the_pentagon_s_1_8_gigapixel_drone_camera_be_used_for_domestic.html) [http://perma.cc/G4NQ-QU3H]; Tyler Rogoway, *Drones in Afghanistan Have the Most Advanced Aerial Surveillance Ever*, FOXROT ALPHA (Apr. 6, 2015, 9:40 AM), <http://foxtrotalpha.jalopnik.com/drones-in-afghanistan-have-the-most-advanced-aerial-sur-1695912540> [http://perma.cc/UKL5-AAXC] (describing the aptly named Gorgon Stare Increment II, which combines images from 368 integrated cameras); Tyler Rogoway, *How One New Drone Tech Finally Allows All-Seeing Surveillance*, FOXROT ALPHA (Aug. 18, 2014, 12:45 PM), <http://foxtrotalpha.jalopnik.com/how-one-new-drone-tech-finally-allows-all-seeing-survei-1553272901> [http://perma.cc/G329-A3D8] (explaining several such technologies and both their utilities and their dangers).

33. See JUDAS PRIEST, *Electric Eye*, on SCREAMING FOR VENGEANCE (Columbia Records 1982). The remarkably prescient lyrics include:

Up here in space  
I'm looking down on you  
My lasers trace  
Everything you do

You think you've private lives  
Think nothing of the kind  
There is no true escape  
I'm watching all the time

\* \* \*

Always in focus  
You can't feel my stare  
I zoom into you  
You don't know I'm there

Muse has written an entire drone album for 2015. See Dan Stubbs, *Muse Plan to Fly Drones over Audiences at Live Dates*, NME (Apr. 16, 2015), <http://www.nme.com/news/muse/84578>

And we are all increasingly aware of the potential for government surveillance overreach. In the aftermath of the 9/11 attacks, Congress defunded DARPA's Information Awareness Office when its proposed Total Information Awareness program threatened to create and mine an unprecedented government database.<sup>34</sup> Federal and state law enforcement agencies recently sought the ability to track all vehicles and search all arrestee cell phones without constitutional restraint; the Supreme Court unanimously rejected both.<sup>35</sup> Seemingly limitless NSA surveillance is debated as a result of the disclosures of Edward Snowden,<sup>36</sup> and we are learning about other private sector and government initiatives that gather similar amounts of information.<sup>37</sup> In short, people are increasingly aware of the technological potential for mass, persistent, and pervasive surveillance, and this concern inevitably will be applied to any

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[<http://perma.cc/9MM3-NF99>].

34. Carl Hulse, *Congress Shuts Pentagon Unit Over Privacy*, N.Y. TIMES (Sept. 26, 2003), <http://www.nytimes.com/2003/09/26/politics/26SURV.html> [<http://perma.cc/F5RR-9GL6>]. DARPA's proposed database would have included everything from internet mail and calling records to banking transactions and travel documents, and would have been analyzed by a to-be developed computer system capable of spotting suspicious behavior. See John Markoff, *Threats and Responses: Intelligence: Pentagon Plans a Computer System That Would Peek at Personal Data of Americans*, N.Y. TIMES, Nov. 9, 2002, at A12; Robert O'Harrow Jr., *U.S. Hopes to Check Computer Globally: System Would Be Used to Hunt Terrorists*, WASH. POST, Nov. 12, 2002, at A4.

35. See *Riley v. California*, 134 S. Ct. 2473, 2495 (2014) (cell phone searching); *Jones*, 132 S. Ct. at 945 (automobile tracking). The Justices were not unanimous as to legal theory—Alito concurred in the judgment in both—but in each case all nine Justices ruled against the government. See *Riley*, 134 S. Ct. at 2495 (Alito, J., concurring); *Jones*, 132 S. Ct. at 957 (Alito, J., concurring).

36. See generally GLENN GREENWALD, *NO PLACE TO HIDE: EDWARD SNOWDEN, THE NSA, AND THE U.S. SURVEILLANCE STATE* (2014). With respect to domestic telephone metadata surveillance and the Foreign Intelligence Surveillance Court, Congress has responded with some reforms. See *Uniting and Strengthening America by Fulfilling Rights and Ensuring Effective Discipline Over Monitoring (USA FREEDOM) Act of 2015*, Pub. L. No. 114-23, 129 Stat. 268.

37. AT&T's Project Hemisphere adds four billion communications records per day to a twenty-six year running database, a pace of gathering only a factor of ten less than the amazing data gathering of the NSA and Britain's GCHQ. See GREENWALD, *supra* note 36, at 98-100; Scott Shane & Colin Moynihan, *Drug Agents Use Vast Phone Trove, Eclipsing N.S.A.'s*, N.Y. TIMES (Sept. 1, 2013), <http://www.nytimes.com/2013/09/02/us/drug-agents-use-vast-phone-trove-eclipsing-nsas.html> [<http://perma.cc/T9LK-2ZFX>]. The DEA uses a network of sophisticated image cameras and license plate readers to track vehicle movements throughout the United States, and it is unclear how much of that data is permanently stored. See Devlin Barrett, *U.S. Spies on Millions of Drivers*, WALL ST. J. (Jan. 26, 2015), <http://www.wsj.com/articles/u-s-spies-on-millions-of-cars-1422314779> [<http://perma.cc/QL4G-CFA2>].

integration of drones.<sup>38</sup> Thus, bills restricting the flight of UAVs have been proposed at the federal level<sup>39</sup> and enacted in, depending upon how one counts, between thirteen and twenty-five states.<sup>40</sup>

However, these legislators have paid little attention to what may be a constitutional barrier to their efforts: the First Amendment.<sup>41</sup> Perhaps this is because much of their focus has been on restricting government actors who lack a First Amendment right. And perhaps this is because, until recently, it was not intuitive to think of flying a surveillance drone as entailing any kind of speech or other First Amendment activity. Recently, though, as sophisticated drones with cameras have become more accessible, we have seen a proliferation of drone flight for photography<sup>42</sup> and newsgathering,<sup>43</sup> and more

38. See Joan Lowy & Jennifer Agiesta, *AP-GfK Poll: Americans Skeptical of Commercial Drones*, AP-GfK (Dec. 19, 2014), <http://ap-gfkipoll.com/featured/findings-from-our-latest-poll-10> [<http://perma.cc/66ZD-9DDK>] (“Nearly three-fifths of those polled said they were extremely or very concerned that private operators could use drones in a way that violates privacy.”).

39. See Preserving Freedom from Unwarranted Surveillance Act of 2013, S. 1016, 113th Cong.; Drone Aircraft Privacy and Transparency Act of 2013, S. 1639, 113th Cong.; Preserving American Privacy Act of 2013, H.R. 637, 113th Cong.

40. See Allie Bohm, *Status of 2014 Domestic Drone Legislation in the States*, ACLU (Apr. 22, 2014, 10:32 AM), <https://www.aclu.org/blog/status-2014-domestic-drone-legislation-states?redirect=blog/technology-and-liberty/status-2014-domestic-drone-legislation-states> [<https://perma.cc/VM9K-4M3Y>] (documenting thirteen state laws); *DRONES: Eyes in the Sky*, ELECTRONIC PRIVACY INFO. CTR. nn.87-99 (Oct. 2014), <https://epic.org/privacy/surveillance/spotlight/1014/drones.html> [<https://perma.cc/JEG5-RJBF>] (documenting thirteen state laws); Rich Williams, *Current Unmanned Aircraft State Law Landscape*, NAT’L CONF. ST. LEGIS. (June 30, 2015), <http://www.ncsl.org/research/transportation/current-unmanned-aircraft-state-law-landscape.aspx> [<http://perma.cc/E6Z8-UPCK>] (citing twenty-five state laws); see also Melanie Reid, *Grounding Drones: Big Brother’s Tool Box Needs Regulation Not Elimination*, 20 RICH. J.L. & TECH. 9, 19-26 (2014), <http://jolt.richmond.edu/v20i3/article9.pdf> [<http://perma.cc/LSB9-SUCH>] (analyzing state drone laws); Michael L. Smith, *Regulating Law Enforcement’s Use of Drones: The Need for State Legislation*, \_\_ HARV. J. LEGIS. (forthcoming) (manuscript at 6-10), [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2492374](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2492374) [<http://perma.cc/P7TL-DFGC>] (same).

41. Restriction on private flight may also run up against federal preemption. See Jol A. Silversmith, *You Can’t Regulate This: State Regulation of the Private Use of Unmanned Aircraft*, 26 AIR & SPACE L. 1, 23 (2013).

42. See, e.g., DRONESTAGRAM, <http://www.dronestagr.am/photos/> [<http://perma.cc/WLF6-HX3L>] (last visited Sept. 27, 2015).

43. Roger Yu, *News Organizations Partner for Drone Research*, USA TODAY (Jan. 15, 2015, 9:56 PM), <http://www.usatoday.com/story/money/2015/01/15/news-media-drone-research-partnership/21802707/> [<http://perma.cc/Z7X2-5R3L>]. We even see drone flight presented as performance art. See *SPARKED: A Short Film Featuring Flying Machines*, FLYING MACHINE ARENA, <http://flyingmachinearena.org/sparked/> [<http://perma.cc/QM7R-8PNF>] (last visited Sept. 27, 2015).

generally, developing jurisprudence recognizes a First Amendment right to record and gather information.<sup>44</sup> Of course, as drone flight increases, so do privacy and liberty concerns. It is clear, then, that now is the time to understand the Fourth Amendment restrictions on government flight, the First Amendment protections for private flight, and any interdependency between the two.

This Article does so in the following manner. First, Part I briefly describes existing federal regulation of unmanned flight. Part II then develops the relevant Fourth Amendment rules restricting police and describes why such rules hinge in critical part on the actions of private persons. Although existing Fourth Amendment precedents address dated technology and dated jurisprudence, from them can be derived a principle consistent with current trends in jurisprudence and compatible with divergent Fourth Amendment theories: generally the police officer may do as the citizen would. Thus, to understand how the Fourth Amendment should regulate drone flight, we must understand how the First Amendment protects private flight.

Parts III and IV therefore describe the governing First Amendment law. Part III examines the developing “right to record,” and analyzes four potential grounds for delineating constitutional protection: the type of recording (photography and other artistic expression as opposed to less expressive material), who is recording, whether the recording is of public or private significance, and the purpose of any recording-restrictive law. These boundaries each raise line-drawing problems, but because at least some drone recording is protected speech, Part IV turns to forum analysis. We explain the value in considering the national airspace system a limited public forum, and how thereby applicable standards may protect the crucial speech and information-gathering interests at stake in UAV use while still allowing the government to pass reasonable safety and privacy restrictions. Finally, Part V returns to what this First Amendment analysis means for restricting government flight pursuant to the Fourth Amendment.

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44. *See infra* Part III.B.

## I. CURRENT UAV REGULATION

Beginning with the Air Commerce Act of 1926,<sup>45</sup> the federal government has had some involvement in regulating aviation for reasons of safety.<sup>46</sup> But when two commercial airplanes crashed over the Grand Canyon in 1956, killing all 128 occupants,<sup>47</sup> it became clear that more stringent regulation was necessary. Hence, in 1958, the Federal Aviation Act<sup>48</sup> created the Federal Aviation Agency, which would become the Federal Aviation Administration. The FAA has regulated flight ever since.<sup>49</sup>

The FAA distinguishes between three types of UAV operations: public, civil, and model/hobbyist.<sup>50</sup> Public operations, ranging from law enforcement to disaster relief to public university research, require a Certificate of Authorization (COA) that permits flight of a particular aircraft, “for a particular purpose, in a particular area.”<sup>51</sup> Thus, for example, a partnership between Georgia Tech and CNN allowed the news agency to use a drone to film the fiftieth anniversary of the Selma civil rights march via a COA that permitted flight in that specific location over an eight-hour period.<sup>52</sup>

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45. Pub. L. No. 69-251, 44 Stat. 568.

46. Safety is of course the primary issue in the integration of UAVs into the national airspace. See Nick Wingfield, *Now, Anyone Can Buy a Drone. Heaven Help Us.*, N.Y. TIMES (Nov. 26, 2014), <http://www.nytimes.com/2014/11/27/technology/personaltech/as-drones-swoop-above-skies-thrill-seeking-stunts-elic-it-safety-concerns.html> [<http://perma.cc/3WGV-KXSQ>].

47. FAA, *Brief History*, *supra* note 5.

48. Pub. L. No. 85-726, 72 Stat. 737 (1958).

49. FAA, *Brief History*, *supra* note 5.

50. FAA, *Unmanned Aircraft Systems*, *supra* note 23.

51. *Public Operations (Governmental)*, FAA, [http://www.faa.gov/uas/public\\_operations/](http://www.faa.gov/uas/public_operations/) [<http://perma.cc/EXM5-G5ZT>] (last modified Aug 25, 2015); see also *Operating Unmanned Aerial Systems (UAS) on University-Owned or University-Managed Property*, U. OKLA., <https://vpr-norman.ou.edu/policies/coa> [<http://perma.cc/BC74-GBLM>] (articulating internal University process for applying for COAs) (last updated July 7, 2014). Law enforcement can benefit from streamlined procedures for very small UAVs. See FMRA § 334(c)(2)(C). Michigan police were the first to achieve statewide approval, limiting the need for individual COAs. See Carl Engelking, *Michigan Is First to Get Statewide Approval for Police Drones*, DISCOVER MAG. (Mar. 11, 2015, 4:05 PM), <http://blogs.discovermagazine.com/drone360/2015/03/11/michigan-approves-police-drone/> [<http://perma.cc/9YK6-4J4K>].

52. See *CNN Deploys a Drone for Historic Selma March Coverage*, AUVSI NEWS (Mar. 5, 2015, 3:32 PM), <http://www.auvsi.org/Mississippi/blogs/auvsi-news/2015/03/05/cnnheli> [<http://perma.cc/DPY5-7DKA>]. This was the first time CNN used a drone to cover domestic news. *Id.*

Civil operations, which include all nongovernment commercial flights, require a Special Airworthiness Certificate that is available only for drone development.<sup>53</sup> Thus, other than for a recently increasing number of exemptions<sup>54</sup> or partnerships like that between Georgia Tech and CNN, commercial entities simply may not fly UAVs in the United States. Indeed, the FAA has gone as far as arguing that flights gathering footage intended for posting to YouTube are impermissible commercial flights if the user can earn any money from the monetization of accompanying advertisements.<sup>55</sup> This has led companies like Amazon, which hope to be early adopters of commercial drones, to complain and host operations in other countries.<sup>56</sup> In a sign of the changing times, however, the FAA recently granted Amazon a Special Airworthiness Certificate to develop its drone delivery.<sup>57</sup>

Finally, and perhaps ironically given the default ban on commercial entities, FAA model aircraft rules—which were for the first time codified into law with the FAA Modernization and Reform Act of 2012<sup>58</sup>—permit any of us to fly UAVs for hobby or recreational

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53. See *Civil Operations (Non-Governmental)*, FAA, [http://www.faa.gov/uas/civil\\_operations/](http://www.faa.gov/uas/civil_operations/) [<http://perma.cc/RFA4-VEAE>] (last modified Mar. 17, 2015).

54. See *Section 333*, FAA, [https://www.faa.gov/uas/legislative\\_programs/section\\_333/](https://www.faa.gov/uas/legislative_programs/section_333/) [<http://perma.cc/3QVJ-NSA9>] (last modified Aug. 21, 2015) [hereinafter FAA, *Section 333*] (showing that as of late March 2015, the FAA had granted 48 exemptions but as of September 2, 2015, it had granted 1439). The first six exemptions, granted in September 2014, were for movie and television production, and those since have included flight for aerial surveying, precision agriculture, and flare stack, bridge, and other inspections. See *Authorizations Granted via Section 333 Exemptions*, FAA, [https://www.faa.gov/uas/legislative\\_programs/section\\_333/333\\_authorizations/](https://www.faa.gov/uas/legislative_programs/section_333/333_authorizations/) [<http://perma.cc/9HA2-M99B>] (last modified Sept. 22, 2015) [hereinafter FAA, *Authorizations Granted via Section 333 Exemptions*].

55. See Jason Koebler, *The FAA Says You Can't Post Drone Videos on YouTube*, MOTHERBOARD (Mar. 12, 2015, 8:43 AM), <http://motherboard.vice.com/read/the-faa-says-you-cant-post-drone-videos-on-youtube> [<http://perma.cc/23YW-2RJ2>]. The FAA has, however, stopped aggressive enforcement that required videos be taken down even if the posting entity was not the drone flyer. See Gregory S. McNeal, *FAA Admits That They Shouldn't Be Ordering People to Delete Drone Videos*, FORBES (Apr. 10, 2015), <http://www.forbes.com/sites/gregorymcneal/2015/04/10/faa-admits-that-they-shouldnt-be-ordering-people-to-delete-drone-videos/> [<http://perma.cc/6NRM-MU9U>].

56. See Chris Johnston, *Amazon to Begin Testing Same-Day Delivery Drones in Cambridge*, GUARDIAN (Nov. 12, 2014, 1:28 PM), <http://www.theguardian.com/technology/2014/nov/12/amazon-drones-cambridge-prime-air-testing> [<http://perma.cc/35ZH-5LEL>].

57. See *Amazon Gets Experimental Airworthiness Certificate*, FAA, <https://www.faa.gov/news/updates/?newsId=82225> [<http://perma.cc/D7X6-TZR3>] (last modified Mar. 19, 2015).

58. See FMRA § 336.

purposes so long as we follow rules regulating size and weight (aircraft must typically weigh no more than fifty-five pounds),<sup>59</sup> altitude (aircraft must remain within the operator's visual line of sight),<sup>60</sup> and area (flight is restricted near airports).<sup>61</sup> Of course any UAV flight, as with all aircraft flight, may not be conducted "in a careless or reckless manner so as to endanger the life or property of another."<sup>62</sup>

In short, public operation of UAVs is currently highly regulated,<sup>63</sup> and except for vehicle development, private use is permitted only by hobbyists or, more recently, via an FAA exemption. This landscape is poised to undergo significant transformation as the FAA begins integration into the national airspace and as disputes over current rules are resolved.<sup>64</sup> Two moves in that direction are the FAA's notice of proposed rulemaking, which permits commercial flight of small UAVs operated within visual line of sight and over only persons involved in the flight<sup>65</sup> and initiatives to explore flight beyond line of sight.<sup>66</sup>

But many legislators at both the state and federal levels are not waiting for FAA action to address what they perceive to be a grave threat to Americans' privacy. Indeed, legislators who seem to agree on little else have agreed to work toward limiting law enforcement's

59. *Id.* § 336(a)(3).

60. *Id.* § 336(c)(2).

61. *Id.* § 336(a)(5); *see also* FAA, ADVISORY CIRCULAR, AC 91-57, MODEL AIRCRAFT OPERATING STANDARDS (1981), [http://www.faa.gov/documentLibrary/media/Advisory\\_Circular/91-57.pdf](http://www.faa.gov/documentLibrary/media/Advisory_Circular/91-57.pdf) [<http://perma.cc/4HPY-4HHU>]. The FAA has made clear that commercial entities may not fly under these rules. *See* Press Release, FAA, FAA Offers Guidance to Model Aircraft Operators (June 23, 2014), [https://www.faa.gov/news/press\\_releases/news\\_story.cfm?newsId=16474](https://www.faa.gov/news/press_releases/news_story.cfm?newsId=16474) [<http://perma.cc/T3AH-KS6G>].

62. 14 C.F.R. §§ 91.13(a)-(b) (2015).

63. *See* Benjamin Sutherland, *A Bumpy Take-Off: Drones May Take to the Skies—Eventually*, *ECONOMIST* (Nov. 20, 2014), <http://www.economist.com/news/21631834-drones-may-take-skieseventually-bumpy-take> [<http://perma.cc/6EHV-XM9X>] (bemoaning the restrictions).

64. *See infra* Part III.A.

65. *See Overview of Small UAS Notice of Proposed Rulemaking*, FAA, [https://www.faa.gov/regulations\\_policies/rulemaking/media/021515\\_sUAS\\_Summary.pdf](https://www.faa.gov/regulations_policies/rulemaking/media/021515_sUAS_Summary.pdf) [<http://perma.cc/4AAT-FAYE>] (last visited Sept. 27, 2015); *Operation and Certification of Small Unmanned Aircraft Systems*, FAA, [https://www.faa.gov/regulations\\_policies/rulemaking/recently\\_published/media/2120-AJ60\\_NPRM\\_2-15-2015\\_joint\\_signature.pdf](https://www.faa.gov/regulations_policies/rulemaking/recently_published/media/2120-AJ60_NPRM_2-15-2015_joint_signature.pdf) [<http://perma.cc/A828-L6XV>].

66. *See* Matt McFarland, *The FAA and the Drone Industry are Turning over a New Leaf*, *WASH. POST* (May 7, 2015), <http://www.washingtonpost.com/blogs/innovations/wp/2015/05/07/the-faa-and-the-drone-industry-are-turning-over-a-new-leaf/> [<http://perma.cc/3R74-LKN8>].



use of drones. To Senator Chuck Grassley, “[t]he thought of government drones buzzing overhead, monitoring the activity of law abiding citizens, runs contrary to the notion of what it means to live in a free society.”<sup>67</sup> His fellow Republican, Senator Rand Paul, introduced a bill that would typically require federal agents to obtain a warrant before engaging in UAV surveillance in criminal investigations.<sup>68</sup>

Paul’s Democratic Senate colleague, Ed Markey, has expressed similar sentiments and has proposed broader legislation aimed at protecting Americans’ privacy from both law enforcement and private use of drones.<sup>69</sup> A related House bill was introduced with bipartisan sponsorship,<sup>70</sup> and such bipartisanship was also reflected in a bill introduced jointly by Republican Representative Ted Poe of Texas and Democratic Representative Zoe Lofgren of California.<sup>71</sup> Laws restricting UAV surveillance have likewise been introduced in both “red states” (such as Alabama, Alaska, Idaho, Kansas, and South Carolina) and “blue states” (such as California, Massachusetts, New Jersey, New York, and Washington).<sup>72</sup>

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67. Brendan Sasso, *Senators Fear Drones ‘Buzzing Overhead,’* HILL (Mar. 20, 2013, 7:06 PM), <http://thehill.com/policy/technology/289337-senators-worry-about-domestic-drone-surveillance> [<http://perma.cc/HXP6-K7UE>].

68. Preserving Freedom from Unwarranted Surveillance Act of 2013, S. 1016, 113th Cong.

69. “Before countless commercial drones begin to fly overhead,” said Senator Markey, “we must ground their operation in strong rules to protect privacy and promote transparency.” Drone Aircraft Privacy and Transparency Act of 2013, S. 1639, 113th Cong. An updated version of this bill has recently been refiled. *See* Drone Aircraft Privacy and Transparency Act of 2015, S. 635, 114th Cong.

70. Drone Aircraft Privacy and Transparency Act of 2013, H.R. 2868, 113th Cong.

71. *See* Preserving American Privacy Act, H.R. 637, 113th Cong. (2013). Representative Poe will continue pressing the cause, recently commenting:

The Red Ryder BB gun is a ghost of Christmas past because, this year, Santa gave drones. Here a drone, there a drone, everywhere a drone. Just more eyes in the sky, and these eyes could be anywhere and on any person. How comforting is that? ... People are rightfully concerned that these eyes in the sky could be a threat to their constitutional right of privacy.

Ted Poe, *Christmas Drones*, TEXAS GOP VOTE (Jan. 12, 2015, 5:03 PM), <http://www.texasgopvote.com/family/christmas-drones-007393> [<http://perma.cc/FR2C-Z7W9>].

72. *See* Bohm, *supra* note 40; Williams, *supra* note 40.

## II. REGULATING LAW ENFORCEMENT UNDER THE FOURTH AMENDMENT

It has been suggested that law enforcement use of drones to observe activities of a private nature might violate the Fourth Amendment's prohibition on unreasonable searches. A Congressional Research Service report, for example, notes the worry that drones "will be used to spy on American citizens," and asserts that, "[u]ndoubtedly, the government's use of drones for domestic surveillance operations implicates the Fourth Amendment and other applicable laws."<sup>73</sup>

At first blush, this assertion might seem at odds with a trio of Supreme Court cases from the 1980s—*California v. Ciraolo*, *Dow Chemical Co. v. United States*, and *Florida v. Riley*—holding that the Fourth Amendment is typically not implicated when the government uses airplanes or helicopters to observe (1) the growing of marijuana within the curtilage of a home (*Ciraolo* and *Riley*) or (2) the pollution-related activities on the premises of a factory (*Dow Chemical*).<sup>74</sup> So long as such observation takes place from public airspace, said the Court, police are not violating any reasonable expectations of privacy; they are simply observing what landowners know can be seen from public space.<sup>75</sup> Coming toward the end of a two-decade development of what is now known as the "third party doctrine,"<sup>76</sup> this can be seen as the doctrine's easiest instance: if one

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73. ALISSA M. DOLAN & RICHARD M. THOMPSON II, CONG. RESEARCH SERV., R42940, INTEGRATION OF DRONES INTO DOMESTIC AIRSPACE: SELECTED LEGAL ISSUES 12 (2013), <http://fas.org/sgp/crs/natsec/R42940.pdf> [<http://perma.cc/SXQ6-LT47>]; see also RICHARD M. THOMPSON II, CONG. RESEARCH SERV., R42701, DRONES IN DOMESTIC SURVEILLANCE OPERATIONS: FOURTH AMENDMENT IMPLICATIONS AND LEGISLATIVE RESPONSES (2013), <http://fas.org/sgp/crs/natsec/R42701.pdf> [<http://perma.cc/9WEH-T8JU>].

74. See *Florida v. Riley*, 488 U.S. 445, 452 (1989); *California v. Ciraolo*, 476 U.S. 207, 215 (1986); *Dow Chem. Co. v. United States*, 476 U.S. 227, 239 (1986); see also Reid, *supra* note 40, at 35-38 (examining Fourth Amendment implications of drone overflight).

75. See *Riley*, 488 U.S. at 450-52; *id.* at 454-55 (O'Connor, J., concurring in the judgment); *Dow Chem.*, 476 U.S. at 239; *Ciraolo*, 476 U.S. at 215.

76. The third party doctrine cases are: the "false friend" cases of *Hoffa v. United States*, 385 U.S. 293 (1966), and *United States v. White*, 401 U.S. 745 (1971); the bank records case of *United States v. Miller*, 425 U.S. 435 (1976); the phone records case of *Smith v. Maryland*, 442 U.S. 735 (1979); the beeper cases of *United States v. Knotts*, 460 U.S. 276 (1983), and *United States v. Karo*, 468 U.S. 705 (1984); the flyover cases of *Ciraolo* and *Riley*; the open

retains no reasonable expectation of privacy in what she shares with a single other entity, surely she likewise retains no reasonable expectation in what she makes available to anyone and everyone desiring and equipped to see.

But not only has the third party doctrine rightly fallen on harder times,<sup>77</sup> the Court's holdings were each able to muster only five votes, with *Riley* requiring a concurrence in the judgment to even get to five.<sup>78</sup> And the majority in those cases did not have a compelling response to the dissenters' complaint that although we may expect planes or helicopters to pass overhead, we do not expect that those pilots will intently focus on our domestic and commercial activities,<sup>79</sup> and that this distinction is important given the Fourth Amendment's policy choice "that our society should be one in which citizens dwell in reasonable security and freedom from surveillance."<sup>80</sup> The *Ciraolo* Court brushed aside this "novel analysis,"<sup>81</sup> but even were it novel in 1986, this is a harder claim in 2015 when the Court does consider programmatic purpose or intent in other contexts.<sup>82</sup> In other words, as will be developed in more detail below,<sup>83</sup> even if police should face no restraints on transportation-minded flights like those flown by private persons, it would not necessarily

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fields cases of *Oliver v. United States*, 466 U.S. 170 (1984), and *United States v. Dunn*, 480 U.S. 294 (1987); and the garbage case of *California v. Greenwood*, 486 U.S. 35 (1988). In the words of the *Miller* Court:

[We] ha[ve] held repeatedly that the Fourth Amendment does not prohibit the obtaining of information revealed to a third party and conveyed by [the third 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.

425 U.S. at 443.

77. See *infra* note 135 and accompanying text.

78. See *Riley*, 488 U.S. at 452 (O'Connor, J., concurring).

79. See *Ciraolo*, 476 U.S. at 222-25 (Powell, J., dissenting); *id.* at 214 n.2 (majority opinion) (responding briefly in a footnote that Powell's thinking constituted a "novel analysis"); *Dow Chem.*, 476 U.S. at 249-50 (Powell, J., concurring in part and dissenting in part).

80. *Ciraolo*, 476 U.S. at 217 (Powell, J., dissenting) (internal quotation marks omitted).

81. *Id.* at 214 n.2.

82. See *Brigham City v. Stuart*, 547 U.S. 398, 405 (2006) (describing reliance on programmatic intent in inventory searches); *City of Indianapolis v. Edmond*, 531 U.S. 32, 45-48 (2000) (considering programmatic purpose in automobile checkpoints); see also *Florida v. Jardines*, 133 S. Ct. 1409, 1417 (2013) ("[W]hether the officer's conduct was an objectively reasonable search ... depends upon the purpose for which they entered."); *Ferguson v. City of Charleston*, 532 U.S. 67, 78 (2001) (contrasting purposes of prenatal care and law enforcement).

83. See *infra* note 89 and accompanying text.

follow that investigation-minded flights, which are quite different, should be unrestricted.

Moreover, in all three flyover cases, the Court hinted that a Fourth Amendment violation might occur when aerial observation obtains information that is more private and personal. In *Ciraolo*, the Court noted that it was not evaluating a situation in which the state was using technology to reveal “those intimate associations, objects or activities otherwise imperceptible to police or fellow citizens.”<sup>84</sup> In *Riley*, it stated that there was no evidence that, in using a helicopter to see if a greenhouse concealed marijuana, police learned any “intimate details connected with the use of the home or curtilage.”<sup>85</sup> And in *Dow Chemical*, decided the same day as *Ciraolo*, the Court emphasized that the government’s effort to detect violations of environmental laws was not a case in which the use of magnification revealed small items such as a “class ring” or “identifiable human faces or secret documents captured in such a fashion as to implicate more serious privacy concerns.”<sup>86</sup>

The *Riley* plurality also relied, somewhat strangely, upon a lack of “undue noise, ... wind, dust, or threat of injury.”<sup>87</sup> But Justice Brennan, in dissent, persuasively demonstrated those are not Fourth Amendment concerns, his language presciently describing capabilities of modern UAVs:

Imagine a helicopter capable of hovering just above an enclosed courtyard or patio without generating any noise, wind, or dust at all—and, for good measure, without posing any threat of injury. Suppose the police employed this miraculous tool to discover not only what crops people were growing in their greenhouses, but also what books they were reading and who their dinner guests were. Suppose, finally, that the FAA regulations remained unchanged, so that the police were undeniably “where they had a right to be.” Would today’s plurality continue to assert that “[t]he right of the people to be secure in their

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84. *Ciraolo*, 476 U.S. at 215 n.3.

85. *Florida v. Riley*, 488 U.S. 445, 452 (1989).

86. *Dow Chem. Co. v. United States*, 476 U.S. 227, 238 n.5 (1986). “[T]he photographs here are not so revealing of intimate details as to raise constitutional concerns.” *Id.* at 238.

87. *Riley*, 488 U.S. at 452.

persons, houses, papers, and effects, against unreasonable searches and seizures” was not infringed by such surveillance?<sup>88</sup>

Thus, these cases should be read in view of then-existing technology and their facts, leaving ample room for Fourth Amendment regulation of significant aerial surveillance.

Indeed, within the cases is a more narrow rule that critically links the Fourth and First Amendment inquiries. In casting the fifth vote in *Riley*, Justice O'Connor articulated that government surveillance does not pass Fourth Amendment muster merely because unrelated private persons *could* obtain the relevant information, but rather only if they routinely *do* obtain that information.<sup>89</sup> Only in the latter case is it unreasonable to expect privacy. Four other Justices signed on to this approach,<sup>90</sup> under which Fourth Amendment restrictions on UAV flight will depend upon what private persons do with UAVs, which of course depends in part on what the First Amendment lawfully entitles private persons to do with UAVs.

This more nuanced interpretation is reinforced by recent case law. The concurring opinions in *United States v. Jones* give the sense that, however tolerant the Supreme Court may have been of aerial surveillance in the 1980s, it may be ready to adopt a more restrictive Fourth Amendment rule for modern UAV surveillance.<sup>91</sup> The

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88. *Id.* at 462-63 (Brennan, J., dissenting).

89. *Id.* at 454 (O'Connor, J., concurring).

The fact that a helicopter could conceivably observe the curtilage at virtually any altitude or angle, without violating FAA regulations, does not in itself mean that an individual has no reasonable expectation of privacy from such observation.

In determining whether Riley had a reasonable expectation of privacy from aerial observation, the relevant inquiry after *Ciraolo* is not whether the helicopter was where it had a right to be under FAA regulations. Rather, consistent with *Katz*, we must ask whether the helicopter was in the public airways at an altitude at which members of the public travel with sufficient regularity that Riley's expectation of privacy from aerial observation was not one that society is prepared to recognize as reasonable.... If the public rarely, if ever, travels overhead at such altitudes, the observation cannot be said to be from a vantage point generally used by the public and Riley cannot be said to have knowingly exposed his greenhouse to public view.

*Id.* at 454-55 (internal quotation marks omitted). In a more questionable move, Justice O'Connor would place the burden of proving these empirics on the defendant. *See id.* at 455 (O'Connor, J., concurring); *id.* at 465-66 (Brennan, J., dissenting); *id.* at 468 (Blackmun, J., dissenting).

90. *See id.* at 464 (Brennan, J., dissenting); *id.* at 467 (Blackmun, J., dissenting).

91. 132 S. Ct. 945, 957 (2012) (Sotomayor, J., concurring); *id.* at 964 (Alito, J., concurring).

Court had previously held, in *United States v. Knotts*, that police raise no Fourth Amendment concern when they supplement their visual surveillance in public space with a radio transmitter hidden in a purchased chloroform drum, enabling them to track a vehicle along a single trip.<sup>92</sup> But in *Jones*, the Court unanimously agreed that police do engage in a Fourth Amendment search when they attach a GPS device to an individual's vehicle and monitor that vehicle's movements for an entire month.<sup>93</sup> The Court's five-member majority opinion rested on the narrower ground that, unlike the chloroform drum in *Knotts* that was voluntarily purchased by the suspect already containing the radio transmitter inside, the GPS device in *Jones* was attached without the vehicle owner's permission, and the attaching thus constituted a trespass or physical intrusion.<sup>94</sup> The concurring opinions, however, urged a distinction more relevant to the Fourth Amendment status of UAV flight: whereas the radio transmitter in *Knotts* could only supplement real-time tracking by police officers tailing a car on the highway and was used to monitor a single trip, the GPS device in *Jones* could entirely replace such human tracking and allow tracking on a massive scale.<sup>95</sup>

As Justice Alito noted, GPS tracking dramatically lowers the cost of round-the-clock surveillance, which was "difficult and costly" in ages past and thus "rarely undertaken."<sup>96</sup> Thanks to this technology, police could now easily subject numerous people to the kind of surveillance that historically "would have required a large team of agents, multiple vehicles, and perhaps aerial assistance."<sup>97</sup> Thus, in the words of Justice Sotomayor, "because GPS monitoring is cheap in comparison to conventional surveillance techniques and, by design, proceeds surreptitiously, it evades the ordinary checks that constrain abusive law enforcement practices: 'limited police resources and community hostility.'"<sup>98</sup> Hence, police can now, without concern for cost or resource limitations, subject numerous citizens to GPS

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in the judgment).

92. 460 U.S. 276, 285 (1983).

93. *Jones*, 132 S. Ct. at 947, 949.

94. *Id.* at 951-53.

95. *Id.* at 955-57 (Sotomayor, J., concurring); *id.* at 962-64 (Alito, J., concurring).

96. *Id.* at 963 (Alito, J., concurring).

97. *Id.*

98. *Id.* at 956 (Sotomayor, J., concurring) (quoting *Illinois v. Lidster*, 540 U.S. 419, 426 (2004)).

surveillance that creates a “precise, comprehensive record of [each] person’s public movements,” thereby revealing numerous private details.<sup>99</sup>

UAV tracking raises similar concerns. Such surveillance, unlike GPS tracking of a vehicle, cannot currently collect data on its own without aid from a human operator, but that technology is forthcoming.<sup>100</sup> And even without that full automation, drone surveillance is still far less costly—and in many ways, far more powerful—than the aerial surveillance technology available to the police in *Ciraolo*, *Riley*, and *Dow Chemical*.<sup>101</sup> Just as GPS devices can generate far more information about a person’s movements than the radio transmitter location technology of the 1980s, drone surveillance can gather more information from a person’s backyard than the aerial surveillance of that time, both in terms of detail and quantity, thereby learning of “intimate associations, objects or activities” and “intimate details” that even the earlier Courts suggested should remain constitutionally off-limits to suspicionless surveillance from the air.<sup>102</sup> As UAV technology improves, and solar-powered or laser-rechargeable<sup>103</sup> autonomous vehicles can hover over a city at thousands of feet and gather massive amounts of high-resolution data from gigapixel cameras, UAV flight may indeed look far more invasive than the GPS technology that concerned the *Jones* Court.

The Fourth Amendment precedents thus can and should be read to regulate drone surveillance,<sup>104</sup> but from them we derive a public

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99. *Id.* at 955.

100. See Evan Ackerman, *Camera Drones that Follow You*, IEEE SPECTRUM (June 25, 2014, 13:43 GMT), <http://spectrum.ieee.org/autoton/robotics/aerial-robots/drones-that-follow-you> [<http://perma.cc/N4ME-SLG3>].

101. For a clever analysis of the cost of various location tracking methods, but not including drones, see Kevin S. Bankston & Ashkan Soltani, *Tiny Constables and the Cost of Surveillance: Making Cents Out of United States v. Jones*, 123 YALE L.J. F. 335, 341-50 (2014) <http://yalelawjournal.org/forum/tiny-constables-and-the-cost-of-surveillance-making-cents-out-of-united-states-v-jones> [<http://perma.cc/695M-9KEL>].

102. *California v. Ciraolo*, 476 U.S. 207, 215 n.3 (1986); *Dow Chem. Co. v. United States*, 476 U.S. 227, 238 (1986).

103. See *Wireless Charging: Coiled and Ready to Strike*, ECONOMIST, June 27, 2015, at 67.

104. As for precisely how the Fourth Amendment should regulate aerial and other public surveillance, we and others have made preliminary proposals. See Stephen E. Henderson, *Real-Time and Historic Location Surveillance After United States v. Jones: An Administrable, Mildly Mosaic Approach*, 103 J. CRIM. L. & CRIMINOLOGY 803, 831-35 (2013) (constructing a duration-based framework); Christopher Slobogin, *Making the Most of United States v. Jones in a Surveillance Society: A Statutory Implementation of Mosaic Theory*, 8 DUKE J. CONST. L.

disclosure doctrine that police typically need not “shield their eyes” from what other citizens in fact freely and lawfully observe.<sup>105</sup> When technology is “in general public use” for a particular purpose, the Fourth Amendment does not restrict such law enforcement use.<sup>106</sup> Of course, courts must be careful to closely scrutinize government claims of equivalence between private and public use of technologies. If *Jones* makes anything clear, it is that the use of technology as a force multiplier can be a difference in kind, not merely in degree: just because other people are of course free to observe my public movements does not mean, without more, that the government may use technology that logs a significant portion of those movements. Similarly, that people are free to take photographs in public does not, without more, indicate that the government may line the streets and parks with powerful networks of linked cameras. Courts must compare apples to apples.<sup>107</sup> But if the equivalence is accurate, then, as the Supreme Court recently reiterated in *Florida v. Jardines*, law enforcement may act as a private citizen would do.<sup>108</sup>

So if the First Amendment keeps open a certain avenue of aerial observation to private citizens, it may also—at least as a default matter—keep that avenue open to law enforcement. This may only be the default because, as Christopher Slobogin has argued, there

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& PUB. POL'Y (SPECIAL ISSUE) 1, 26-27 (2012) (same); see also Marc Jonathan Blitz, *The Fourth Amendment Future of Public Surveillance: Remote Recording and Other Searches in Public Space*, 63 AM. U. L. REV. 21, 22 (2013) (constructing a recording or magnification framework). The Court could also look to its automobile roadblock and drug-testing case law and require that warrantless law enforcement aerial surveillance be broadly applicable, limited in purpose, and nondiscriminatory, in order to benefit from the checks of the political process. See Henderson, *supra* note 31, at 554-59 (describing these benefits of political process checks and the Supreme Court's Fourth Amendment jurisprudence regarding the same).

105. *Ciraolo*, 476 U.S. at 213.

106. *Kyllo v. United States*, 533 U.S. 27, 34 (2001) (holding that the use of a thermal imager to obtain information regarding the waste heat exiting a home is a search, at least so long as such devices are not in general public use).

107. See HELEN NISSENBAUM, *PRIVACY IN CONTEXT: TECHNOLOGY, POLICY, AND THE INTEGRITY OF SOCIAL LIFE* 235 (2009) (“What matters is not merely that a particular technical device or system is not overly unusual, but that its use in a particular context, in a particular way is not overly unusual.”).

108. 133 S. Ct. 1409, 1415-16 (2013) (citing *Kentucky v. King*, 131 S. Ct. 1849, 1862 (2011)); see also Stephen E. Henderson & Kelly Sorensen, *Search, Seizure, and Immunity: Second-Order Normative Authority and Rights*, 32 CRIM. JUST. ETHICS 108, 114 (2013) (developing this principle and applying it to exigent circumstances home entry).



may be special constitutional reasons to restrict government camera surveillance.<sup>109</sup> And it depends critically upon what private persons actually do. Therefore, we next turn to developing that First Amendment law, but first finish with two brief Fourth Amendment points: the public disclosure default seems viable even if one adopts a different conception of the Fourth Amendment than the Court's own, and if the Court takes an unfortunate turn and returns to a monolithic third party doctrine, the First Amendment-Fourth Amendment connection is merely reinforced.

#### A. *Fourth Amendment Models*

To determine whether a particular police action constitutes a “search” and thus must be reasonable under the Fourth Amendment, the Supreme Court uses two tests. The first, recently revived by the Court in *Jones* after a forty-five year dormancy, requires a physical intrusion into a constitutionally-protected area—a person, house, paper, or effect—in order to obtain information.<sup>110</sup> At first blush, this might not seem generally relevant to UAV flight, but that is unclear because we know so little about what conception of “intrusion” or “trespass” the Court might ultimately use, and also very little about how the legal doctrine of trespass might ultimately accommodate or restrict UAV flight.<sup>111</sup>

The second test for what constitutes a Fourth Amendment search—and the dominant test for the last half-century as the “trespass” or “property” conception lay dormant—is a test derived from Justice Harlan’s concurrence in *Katz v. United States*.<sup>112</sup> Under this test, the government engages in a Fourth Amendment search any time it intrudes upon an “expectation of privacy ... that society is

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109. See CHRISTOPHER SLOBOGIN, *PRIVACY AT RISK* 98-108 (2007) (arguing that there are freedom of speech and association, freedom of movement and repose, right to privacy, and Fourth Amendment reasons to constitutionally restrict public camera surveillance).

110. *United States v. Jones*, 132 S. Ct. 945, 950-51 (2012); see also *Jardines*, 133 S. Ct. at 1414 (“When the Government obtains information by physically intruding on persons, houses, papers, or effects, a ‘search’ within the original meaning of the Fourth Amendment has undoubtedly occurred.” (quoting *Jones*, 132 S. Ct. at 950-51, 951 n.3) (internal quotation marks omitted)).

111. See *infra* Part IV.B (discussing *United States v. Causby*, 328 U.S. 256 (1946)).

112. 389 U.S. 347, 360-62 (1967) (Harlan, J., concurring).

prepared to recognize as ‘reasonable.’”<sup>113</sup> Unfortunately, despite forty-five years of use, it remains unclear whether the *Katz* test is primarily empirical, primarily normative, or empirical with a normative backstop. This matters because, as Justice Alito observed in his *Jones* concurrence, what people expect can change: “[T]he *Katz* test rests on the assumption that this hypothetical reasonable person has a well-developed and stable set of privacy expectations,” but “technology can change those expectations” by “produc[ing] significant changes in popular attitudes.”<sup>114</sup> Indeed, in *City of Ontario v. Quon*, eight members of the Court were sufficiently concerned about potentially shifting expectations regarding electronic communications that they were hesitant to declare what those expectations might be.<sup>115</sup>

The *Katz* test, then, could be seen to introduce confusion into constitutional protection by allowing what counts as a search to change as new technologies, cultural practices, and laws transform the way people interact with space and with each other. Some scholars have suggested that the definition of a Fourth Amendment “search” should be built upon more stable foundations. One of us, for example, has argued that search and seizure “are (and were, at the time of the founding) ordinary, commonplace words” and should “bear that ordinary meaning.”<sup>116</sup> Of course, this leaves hard work to do, merely placing it squarely upon the Fourth Amendment’s “reasonableness” criterion.

Others, such as Anthony Amsterdam and Dan Solove, have argued that the definition of a Fourth Amendment search should depend not on constantly changing expectations about where we are shielded from observation, but rather on a (hopefully stable) sense of how much privacy a free society requires people to have from

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113. *Id.* at 361.

114. *Jones*, 132 S. Ct. at 962 (Alito, J., concurring).

115. 560 U.S. 746, 759 (2010) (“The Court must proceed with care when considering the whole concept of privacy expectations in communications made on electronic equipment .... The judiciary risks error by elaborating too fully on the Fourth Amendment implications of emerging technology before its role in society has become clear.”).

116. Henderson, *supra* note 31, at 544; *see also* Akhil Reed Amar, *Fourth Amendment First Principles*, 107 HARV. L. REV. 757, 768 (1994) (arguing that “scanning [a] crowd,” even in public, counts as a “search,” but that such a search is clearly constitutional); *Search Definition*, MERRIAM-WEBSTER, <http://www.merriam-webster.com/dictionary/search> [<http://perma.cc/B7L8-6UHT>] (last visited Sept. 27, 2015) (defining “search” as “look[ing] into or over carefully or thoroughly in an effort to find or discover something”).

government.<sup>117</sup> Amsterdam, for example, says that the core inquiry in determining if the Fourth Amendment applies should be “whether, if the particular form of surveillance practiced by the police is permitted to go unregulated by constitutional restraints, the amount of privacy and freedom remaining to citizens would be diminished to a compass inconsistent with the aims of a free and open society.”<sup>118</sup> Three of the *Riley* dissenters adopted this formulation.<sup>119</sup> Solove has similarly suggested that “[t]he Fourth Amendment should regulate government information gathering whenever it causes problems of reasonable significance,” which for him include “people’s ability to exercise autonomy, engage in free speech, communicate with others, associate in groups, participate in political activities, pursue self-development, and formulate their own ideas, beliefs, and values.”<sup>120</sup>

Such alternatives, however, are far from self-defining and are unlikely to be adopted after decades of Supreme Court jurisprudence developed under the reasonable expectation of privacy framework. Not a single justice in *Jones*, which signaled both a resurgence of the dormant property-based conception and a potentially significant shift in how the Court understands the Fourth Amendment’s application to surveillance in public spaces, suggested that the *Katz* framework be replaced.<sup>121</sup> Moreover, and most importantly, alternative inquiries cannot insulate Fourth Amendment questions about permissible police surveillance from being powerfully shaped by what people expect is routine and acceptable in private surveillance—which, in part, is determined by First Amendment limits on what private parties can be prevented from seeing in

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117. See generally Anthony G. Amsterdam, *Perspectives on the Fourth Amendment*, 58 MINN. L. REV. 349 (1974); Daniel J. Solove, *Fourth Amendment Pragmatism*, 51 B.C. L. REV. 1511 (2010).

118. Amsterdam, *supra* note 117, at 403. Amsterdam adds that courts can answer this question only if they first “transmut[e]” it into one that is less abstract, and he suggests that some version of reasonable expectation of privacy test might serve such a role. *Id.* at 404.

119. See *Florida v. Riley*, 488 U.S. 445, 456-57 (1989) (Brennan, J., dissenting).

120. Solove, *supra* note 117, at 1528.

121. In her concurrence, Justice Sotomayor did perhaps try to work something like Amsterdam’s rule into the reasonable expectation of privacy criterion. See *United States v. Jones*, 132 S. Ct. 945, 956 (2012) (Sotomayor, J., concurring) (suggesting that in determining whether there exists a reasonable expectation of privacy, courts should consider whether surveillance “may alter the relationship between citizen and government in a way that is inimical to democratic society” (internal quotation marks omitted)).

public and then sharing with others. It is a powerful default intuition that police generally be allowed to use tools available to, and routinely and lawfully used by, others.

Consider, for example, how the rise of Google Street View has changed what information is available to individuals from a computer with an Internet connection.<sup>122</sup> Google Street View allows individuals located thousands of miles away to easily obtain a view of a street and the business and residences on it from a vantage point of a pedestrian on-site. Although it does not allow real-time observation—at least not yet—individuals can often gain close-up views of a home's exterior and curtilage and may even be able to gather details from their computers akin to those which police gathered from the plane used in *Ciraolo*. Indeed, police have used Google Street View to investigate robbery suspects seen in an image<sup>123</sup> and to help locate missing children,<sup>124</sup> and it could be used in the due diligence required to apply for a warrant.<sup>125</sup> Google Street View has also turned up evidence of drug deals and vandalism<sup>126</sup> and has been used by clever pranksters to stage an axe murder.<sup>127</sup> It would seem odd for the Constitution to require police to obtain a warrant before using a computer technology freely available to others, including the criminals they are pursuing, and this oddity

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122. See *Street View*, GOOGLE, <https://www.google.com/maps/views/streetview> [http://perma.cc/E98M-XVPP] (last visited Sept. 27, 2015).

123. See Benjamin Fearnow, *Google Street View Images Catch Robbery Suspects in the Act Three Years Later*, CBS HOUSTON (July 15, 2014), <http://houston.cbslocal.com/2014/07/15/google-street-view-images-catch-robbery-suspects-in-the-act-3-years-later/> [http://perma.cc/3GVT-5RMK].

124. See *Google Search Finds Missing Child*, BBC NEWS, <http://news.bbc.co.uk/2/hi/technology/7820984.stm> [http://perma.cc/JW9M-WZWQ] (last updated Jan. 9, 2009).

125. Cf. Stephen E. Henderson, *What Alex Kozinski and the Investigation of Earl Bradley Teach About Searching and Seizing Computers and the Dangers of Inevitable Discovery*, 19 WIDENER L. REV. 115, 123-29 (2013) (describing an investigation in which this was not done and the potential consequences thereof).

126. See Jess Fee, *17 Illicit Acts Caught on Google Street View*, MASHABLE (June 24, 2013), <http://mashable.com/2013/06/24/illicit-google-street-view/> [http://perma.cc/DMT4-C3A9]; Alexandra Klausner, *'Drug Deal' Caught on Google Street View in 'Most Dangerous Town in America' Camden*, DAILYMAIL (Aug. 19, 2014), <http://www.dailymail.co.uk/news/article-2728491/Former-addict-looks-old-dope-spot-Google-Maps-sees-appears-drug-deal.html> [http://perma.cc/XR7V-RB36].

127. See Lizzie Dearden, *Police Solve 'Axe Murder' Captured on Google Street View in Edinburgh*, INDEPENDENT (June 2, 2014), <http://www.independent.co.uk/news/weird-news/police-solve-axe-murder-captured-on-google-street-view-in-edinburgh-9473780.html> [http://perma.cc/WA2N-QM2T].

would exist whether one used Amsterdam's test or that from *Katz*. If a free society can survive constant use of Google Street View by anyone who wishes to use it (including one's business rivals or political enemies), why would it not be able to survive use of Google Street View by police?<sup>128</sup>

The same intuition would apply to UAV surveillance were it to become privately commonplace, perhaps proliferating behind a First Amendment shield. It will be hard for people to argue that they are unsettled and made insecure by police drone use in a world where they expect—and have adapted to—being subject to drone surveillance by everyone else. As the Supreme Court said in *Ciraolo*, such a transformation was precisely what changed the from-the-air observation in that case from something once unthinkable to an ordinary and expected part of life: “In an age where private and commercial flight in the public airways is routine, it is unreasonable for respondent to expect” that his land and its uses would remain unseen from such flights.<sup>129</sup> So long as that holding is limited as described above, it strikes us as sound.

It is, of course, conceivable that people might have different expectations about police behavior and that of private actors. Even if one comes to expect (and tolerate) that private individuals or companies with which she is not doing business, and to whom she has not given consent, are able to regularly track her movements or other behaviors, one might not expect (or accept) police doing the same. Just because, say, journalists fly drones to gather information for use in news stories, and real estate companies gather infor-

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128. *But see* SLOBOGIN, *supra* note 109. One might argue that there are some kinds of police surveillance that a free and open society could *not* survive, and that courts should continue to treat these methods as Fourth Amendment searches even if private actors gain the capacity and legal authority to conduct similar kinds of surveillance. For example, if in the future state and federal laws no longer prohibit individuals from tapping into phone conversations, and such wiretapping thus becomes commonplace and expected, one might argue this nonetheless should not lead courts to set aside their long-standing holdings that police wiretapping constitutes a Fourth Amendment search. The argument would be that unregulated police wiretapping would give precisely the kind of unrestrained power that is incompatible with “freedom and privacy” required in “a free and open society.” We do not rule out the possibility that such an argument might justify treating police and private actors differently in some cases. But it would require, at a minimum, a convincing explanation of why the damage that such police surveillance poses to “freedom and privacy” has not *already* been inflicted by its private equivalent.

129. *California v. Ciraolo*, 476 U.S. 207, 215 (1986).

mation about neighborhoods for commercial purposes, this does not necessarily mean that citizens would be comfortable with police conducting these same activities for purposes of law enforcement. But even if such an argument seems normatively plausible, which might be situation-specific, it is not one that has to our knowledge ever persuaded the courts. Instead, for example, the Supreme Court's belief that private persons regularly trespass on private property led it to permit law enforcement, as a Fourth Amendment matter, to do the same.<sup>130</sup> That case is actually rather startling, because the behavior at issue was independently criminal, and therefore the Court's result is one with which we disagree.<sup>131</sup> But it shows a very strong judicial preference for permitting law enforcement to do whatever private persons do.

Thus, both legally and probably normatively, wide-scale use of drones by private actors would make it harder to argue that police—and only police—should have to overcome special hurdles to make observations that others freely make. At the very least, the burden should rest on those asserting such restriction, and such restriction might not be appropriate as a Fourth Amendment standard, which defines only the rights floor. And this seems true regardless of one's particular conception of Fourth Amendment search.

### *B. Third Party and Private Search Doctrines*

As just described, a “public disclosure” doctrine that does not require police alone to shield their eyes strikes us as generally defensible: if I make information available to everyone, and in fact unrelated persons do access that information, then I assume the risk that the government too will access it. But the same intuitions do not support the extreme form of this doctrine that the Court developed from the 1960s through the 1980s, known as the third party doctrine.

The third party doctrine provides that if one knowingly shares information with a single third party, then she loses all reasonable expectations of privacy in that information with respect to government access to that information from that party, regardless of any

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130. See *Oliver v. United States*, 466 U.S. 170, 179 (1984).

131. See *id.* at 190-91 (Marshall, J., dissenting).

promises of confidentiality the third party has made.<sup>132</sup> Hence, as far as the initial disclosing party is concerned, the government can obtain that information from the third party without any Fourth Amendment restraint—mere whim or caprice will suffice. According to the Court’s foundational cases, one assumes the risk that the third party is or will be working with the government.<sup>133</sup> But of course, this misunderstands privacy, which is all about differential information sharing,<sup>134</sup> and it begs the question, because the Court, in articulating the legal rules, defines what risks we must assume as a constitutional matter. Thus, the third party doctrine has engendered withering criticism and, at least in one view, is already showing signs of decay.<sup>135</sup>

If the doctrine remains, however, it is yet another manner in which private information-gathering affects government access. Imagine a person knowingly permits or provides drone footage to a third party, perhaps a citizen contracting with a private security company (imagine “ADT drones”) or a farmer or rancher contracting with a company that monitors the condition of crops or cattle. If that private security or monitoring company decides of its own initiative and volition to provide certain information to law enforcement,<sup>136</sup> the Fourth Amendment is simply not implicated by this purely private conduct.<sup>137</sup> Furthermore, under the third party doctrine, the

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132. See Stephen E. Henderson, *Learning from All Fifty States: How to Apply the Fourth Amendment and Its State Analogs to Protect Third Party Information from Unreasonable Search*, 55 CATH. U. L. REV. 373, 376-79 (2006).

133. See, e.g., *Smith v. Maryland*, 442 U.S. 735, 745 (1979).

134. Cf. Stephen E. Henderson, *Expectations of Privacy in Social Media*, 31 MISS. C. L. REV. 227, 232-33 (2012) (explaining that information privacy is encapsulated by the right to control dissemination of information).

135. See Stephen E. Henderson, *After United States v. Jones, After the Fourth Amendment Third Party Doctrine*, 14 N.C. J.L. & TECH. 431, 434-55 (2013); see also *United States v. Jones*, 132 S. Ct. 945, 957 (2012) (Sotomayor, J., concurring) (contending that “it may be necessary to reconsider” the third party doctrine, which is “ill-suited to the digital age, in which people reveal a great deal of information about themselves to third parties” for limited purposes without expecting “warrantless disclosure to the Government”).

136. See ABA STANDARDS FOR CRIMINAL JUSTICE: LAW ENFORCEMENT ACCESS TO THIRD PARTY RECORDS § 25-2.1(f)(ii) (2013) (using “initiative and volition” as the standard and explaining the reason for its adoption).

137. See *Burdeau v. McDowell*, 256 U.S. 465, 475 (1921) (explaining that the Fourth Amendment’s “origin and history clearly show that it was intended as a restraint upon the activities of sovereign authority, and was not intended to be a limitation upon other than governmental agencies”).

citizen, farmer, or rancher has no Fourth Amendment claim even if the government forcibly obtains the footage from the third-party monitoring company, perhaps via an easy-to-obtain subpoena.<sup>138</sup>

If we further imagine the many situations in which drone footage will likely be obtained without the permission of an individual whose person, property, or activities are recorded, we see the private search doctrine creates additional linkage between the First and Fourth Amendments. Imagine a journalist or Google captures drone video. That capture has no Fourth Amendment significance unless the journalist or Google is acting as an agent of the government, which will rarely be the case.<sup>139</sup> If the journalist or Google independently decides to turn over certain footage, that too does not trigger the Fourth Amendment. Indeed, even if positive law *requires* the company to turn over certain content, the Fourth Amendment is not implicated so long as the company was not required to gather or search that content, meaning the “finding” remained a purely private act.<sup>140</sup> Even if the government compels disclosure, via subpoena

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138. See Andrew E. Taslitz & Stephen E. Henderson, *Reforming the Grand Jury to Protect Privacy in Third Party Records*, 64 AM. U. L. REV. 195, 199 (2014) (describing and criticizing the almost nonexistent controls on grand jury subpoenas).

139. Each federal circuit uses its own test to determine when a private person acts as an agent of the government for Fourth Amendment purposes, but they are substantively similar. For example, the Tenth Circuit utilizes “the following two-part inquiry”: “1) whether the government knew of and acquiesced in the intrusive conduct, and 2) whether the party performing the search intended to assist law enforcement efforts or to further his own ends.” *United States v. Souza*, 223 F.3d 1197, 1201 (10th Cir. 2000) (quoting *Pleasant v. Lovell*, 876 F.2d 787, 797 (10th Cir. 1989)). As an example of a company that would seem to trigger Fourth Amendment scrutiny, consider Vigilant Solutions, which creates and sells surveillance technology to police. See VIGILANT SOLS., <http://vigilantsolutions.com/> [<http://perma.cc/H3HH-4DMD>] (last visited Sept. 27, 2015). The company gathers license plate images with vehicle-mounted cameras and places that information in a database it freely makes available to police, clearly desiring that it be used for law enforcement purposes. See Ali Winston, *Plans to Expand Scope of License-Plate Readers Alarm Privacy Advocates*, CTR. FOR INVESTIGATIVE REPORTING (June 17, 2014), <http://cironline.org/reports/plans-expand-scope-license-plate-readers-alarm-privacy-advocates-6451> [<http://perma.cc/7Y9H-UD2V>]; *National Vehicle Location Service*, VIGILANT SOLS., [http://nvls-lpr.com/nvls/nvls\\_faq.html](http://nvls-lpr.com/nvls/nvls_faq.html) [<http://perma.cc/3HUP-ZRFG>] (last visited Sept. 27, 2015). Another candidate would be Persistent Surveillance Systems. See Craig Timberg, *New Surveillance Technology Can Track Everyone in an Area for Several Hours at a Time*, WASH. POST (Feb. 5, 2014), [http://www.washingtonpost.com/business/technology/new-surveillance-technology-can-track-everyone-in-an-area-for-several-hours-at-a-time/2014/02/05/82f1556e-876f-11e3-a5bd-844629433ba3\\_story.html](http://www.washingtonpost.com/business/technology/new-surveillance-technology-can-track-everyone-in-an-area-for-several-hours-at-a-time/2014/02/05/82f1556e-876f-11e3-a5bd-844629433ba3_story.html) [<http://perma.cc/NLD8-9DRS>].

140. See *Ferguson v. City of Charleston*, 532 U.S. 67, 90 (2001) (Kennedy, J., concurring in the judgment) (arguing that mandatory disclosure laws are not Fourth Amendment



or search warrant, the person whose interests are most at stake—she whose person, land, or other interests are depicted—has no Fourth Amendment claim.<sup>141</sup>

In sum, by affecting what types and amounts of records are potentially available to police, private UAV flight alters the incentives for police themselves to take to the skies and dampens the effectiveness of any restriction on police flight. In this manner, law enforcement access upon private initiative and according to the third party doctrine, like that via the public disclosure doctrine, depends upon private access, and thus depends, at least in part, upon the First Amendment.

### III. FIRST AMENDMENT RIGHTS TO RECORD AND GATHER INFORMATION

In past years it would have seemed strange to treat the FAA's regulation of navigable airspace as raising a First Amendment issue. This is not to say certain regulations might not have had First Amendment impacts, as in August 2014 when the FAA created a no-fly zone over protests regarding a police killing in Ferguson, Missouri.<sup>142</sup> For decades, though, the FAA has regulated where planes, helicopters, and other aerial vehicles travel in America's airspace, and courts have not treated such regulation or restriction of flight as a First Amendment activity.<sup>143</sup> But as discussed below, navigable airspace recently has become a prominent site of important speech-related activity—from journalism to photography to filmmaking—due to the increasing availability and use of relatively inexpensive, camera-equipped UAVs.

When private UAV flights have occurred in the United States, the FAA has quickly—and forcefully—reminded those engaged in such activities that, apart from hobbyists, UAVs cannot be used in public

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restricted); *United States v. Richardson*, 607 F.3d 357, 365-68 (4th Cir. 2010) (so holding for federal statute requiring Internet service providers to report child pornography).

141. *Cf.* Taslitz & Henderson, *supra* note 138, at 214 (describing the reality of third-party subpoenas).

142. See Letter from Anthony E. Rothert, Legal Dir., ACLU of Mo. Found., to Reggie Govan, Chief Counsel, FAA (Nov. 4, 2014), [http://www.aclu-mo.org/files/6914/1512/3362/FAA\\_Letter\\_11.4.14.pdf](http://www.aclu-mo.org/files/6914/1512/3362/FAA_Letter_11.4.14.pdf) [<http://perma.cc/5WJ7-U486>] (addressing the no-fly zone and articulating First Amendment concerns).

143. See *infra* Part IV.

airspace without FAA permission.<sup>144</sup> The FAA has thus far responded to each such use of drones on a case-by-case basis, but it has been tasked by Congress, in the FAA Modernization and Reform Act of 2012, to formulate “a comprehensive plan to safely accelerate the integration of civil unmanned aircraft systems into the national airspace system.”<sup>145</sup> Such a plan will inevitably affect how, where, and in what circumstances journalists, photographers, filmmakers, and others can conduct increasingly popular and important First Amendment activity. It is thus essential for the FAA and others to understand whether, in crafting the plan, they are constrained by constitutional free speech protections.

This Part commences this analysis. It first examines conflicts over UAV use that some media organizations, public interest groups, and other observers have seen as raising First Amendment questions. With these examples in hand, it then turns to whether regulations that affect reporting or other speech activity do so in ways that trigger First Amendment protection. After all, virtually *any* law or regulation places some limits on the raw material that curious would-be speakers or writers might obtain from the world. For example, if the First Amendment does not forbid trespass and wiretapping laws from keeping information-seekers out of other people’s backyards, offices, and private communications, why would it restrain Congress, the FAA, or state legislators when they seek to bar reporters or other private drone operators from public airspace? As explained below, the answer lies partly in the fact that certain uses of UAVs for photography or videography likely constitute First Amendment activity in a way that trespass and wiretapping do not. It is also because—although government has and must have considerable authority over public airspace—forum doctrine does not give government the kind of untrammelled and exclusive control over public airspace that private property owners have over their own property, nor the power that individuals have to exclude others from channels of private communications.

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144. *See supra* Part I.

145. FMRA § 332(a).

*A. Recent FAA Limits on Drone Journalism and Videography*

Among the many benefits that drones promise are a leap forward in the kind of reporting possible for traditional journalists and for bloggers. They allow reporters to capture extraordinary aerial footage that would have been prohibitively expensive, if not impossible, without UAV technology. A recent article in the *Columbia Journalism Review* describes drones as “a game changer, with powers that could fundamentally transform a journalist’s ability to tell stories.”<sup>146</sup> In many cases, particularly outside the United States, such technology has allowed reporters and others to circumvent tight government controls on information, and often overcome other barriers that would have prevented the public from learning about important political developments. A 2014 article in the *Economist* points out that it was from drone cameras that reporters “shot the most revealing footage of the protests that toppled Viktor Yanukovich, [Ukraine’s] corrupt president” and “offered a bird’s-eye view of civil conflict in Thailand, Venezuela and elsewhere.”<sup>147</sup>

The United States, however, does not yet allow journalists to make extensive use of drones for reporting. In fact, the FAA has repeatedly responded to drone reporting by making it clear that, except for very limited use by hobbyists, such drone use is not (yet) permissible without an FAA exemption.<sup>148</sup> Drone journalism programs at the University of Missouri and the University of Nebraska received letters from the FAA demanding they cease using drones until after receiving a Certificate of Authority from the FAA.<sup>149</sup> These programs had used drones to gather video footage for stories on brush fires, fracking along the Missouri River, bird migration,

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146. Louise Roug, *Eye in the Sky*, COLUM. JOURNALISM REV. (May 1, 2014), [http://www.cjr.org/cover\\_story/eye\\_in\\_the\\_sky.php](http://www.cjr.org/cover_story/eye_in_the_sky.php) [<http://perma.cc/QFZ7-H56S>].

147. See *Drone Journalism: Eyes in the Skies*, ECONOMIST (Mar. 29, 2014), <http://www.economist.com/news/international/21599800-drones-often-make-news-they-have-started-gathering-it-too-eyes-skies> [<http://perma.cc/H2RG-5ABV>].

148. See *FAA Ban on Drone Journalism Challenged*, MEDIA CONFIDENTIAL (May 7, 2014), <http://mediaconfidential.blogspot.com/2014/05/faa-ban-on-drone-journalism-challenged.html> [<http://perma.cc/5RHU-49SZ>] (“The FAA won’t currently issue drone permits to news organizations, and journalists who’ve used the small, unmanned aircraft have been fined.”).

149. See *FAA Grounds Journalism School Drones at MU and Nebraska*, KAN. CITY STAR (Aug. 23, 2013), <http://www.kansascity.com/news/local/article325896/FAA-grounds-journalism-school-drones-at-MU-and-Nebraska.html> [<http://perma.cc/B44A-DUN4>].

and archaeological excavations.<sup>150</sup> A storm chaser also received FAA attention after using a drone to shoot video of areas in Arkansas hit by a tornado.<sup>151</sup>

Such actions have triggered protests from journalists and videographers claiming that UAV restrictions may run afoul of the First Amendment.<sup>152</sup> Perhaps the most developed response came from a case that was not about journalism but about the creation of a promotional video. In 2011, a remote control plane hobbyist and entrepreneur named Raphael Pirker used a drone to make a video about the University of Virginia campus, and the FAA fined him \$10,000.<sup>153</sup> The FAA's decision focused not on First Amendment questions but on its own regulations. Yet the *Reporters Committee for Freedom of the Press*, the *Washington Post*, the *New York Times*, and other newspaper and magazine publishers filed an amicus brief.<sup>154</sup> The news media organizations' central complaint was that, in regulating commercial use of UAV video capture, the FAA failed to distinguish ordinary commercial use of drones from "the First Amendment rights of journalists to gather [ ] news."<sup>155</sup>

The FAA now appears to be changing course: the Notice of Proposed Rulemaking it issued on February 15, 2015 would considerably expand the freedom of those operating small drones, including journalists, to use them for capturing images. In short, as noted

150. See *id.*; Scott Pham, *Yes, the University of Missouri Is Still Pursuing Drones*, MO. DRONE JOURNALISM PROGRAM (Sept. 24, 2013), [http://www.missouridronejournalism.com/\[http://perma.cc/3S4M-JXSV\]](http://www.missouridronejournalism.com/[http://perma.cc/3S4M-JXSV]).

151. Gregory S. McNeal, *FAA "Looking into" Arkansas Tornado Drone Journalism, Raising First Amendment Questions*, FORBES (Apr. 29, 2014, 2:32 PM), <http://www.forbes.com/sites/gregorymcneal/2014/04/29/faa-looking-into-arkansas-tornado-drone-journalism-raising-first-amendment-questions/> [http://perma.cc/G933-3JEP].

152. Professor Gregory McNeal, for example, argues that the FAA improperly disregarded interests in press freedom when it penalized a reporter for shooting drone footage of an Arkansas tornado's aftermath: "There is little doubt," he stressed, "that the footage ... provide[d] a benefit to the public and has clear First Amendment value." Gregory S. McNeal, *The Arkansas Tornado Footage the FAA Doesn't Want You to See*, FORBES (Apr. 28, 2014), <http://www.forbes.com/sites/gregorymcneal/2014/04/28/drone-journalist-captures-stunning-video-of-arkansas-tornado-destruction/> [http://perma.cc/64DJ-XN2F].

153. See Pirker, NTSB No. CP-217, at 1, Attach. 1 (Mar. 6, 2014), <http://www.nts.gov/legal/alj/Documents/Pirker-CP-217.pdf> [http://perma.cc/9PVC-QSXA].

154. Brief for News Media as Amici Curiae Supporting Respondent, *Huerta v. Pirker* (No. CP-217), <https://nppa.org/sites/default/files/Huerta%20v%20Pirker%20Amicus%2005-06-14.pdf> [http://perma.cc/QC2V-ZQQQ].

155. *Id.* at 10.

earlier, a drone operator would be able to fly and capture video footage with any drone under fifty-five pounds so long as she flew the drone only in daytime and within her “visual line of sight,” and avoided flying it near airports, in other restricted airspace, or over “people not directly involved in the operation [of the drone].”<sup>156</sup>

The FAA’s proposed rules have been welcomed by journalists,<sup>157</sup> but they do not avoid the need to understand the First Amendment questions and difficulties raised by drone image capture. Notably, even though the FAA’s proposed rules allow for drone journalism, certain aspects of the proposed rules might still pose First Amendment problems. The FAA’s visual line of sight requirement, for example, might prevent journalists or other drone operators from gathering information of public interest that can be obtained only by a drone operating far from the operator’s location. Furthermore, other government entities may impose additional restrictions on use of drones to capture images. The Texas Privacy Act, for example, makes it a crime to use “an unmanned aircraft to capture an image of an individual or privately owned real property in this state with the intent to conduct surveillance on the individual or property captured in the image.”<sup>158</sup> As some journalists have pointed out, the law’s proscription on “surveillance” could bar information-gathering conducted by investigative journalists.<sup>159</sup> And as noted earlier, Congress has likewise considered restricting drone image capture to protect privacy.<sup>160</sup>

There thus remain unanswered First Amendment questions. Moreover, if the First Amendment includes a right to observe or record from the sky, such a right would protect far more than professional journalism. Many photographers and videographers may wish to gather aerial images for artistic expression, rather than

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156. See Operation and Certification of Small Unmanned Aircraft Systems, 80 Fed. Reg. 9544, 9546, 9547 (proposed Feb. 23, 2015); see also *supra* note 65 and accompanying text.

157. See Al Tompkins, *What the FAA’s Newly Proposed Drone Rules Mean to Journalists*, POYNTER (Feb. 15, 2015), <http://www.poynter.org/news/mediawire/320079/what-the-faas-newly-proposed-drone-rules-mean-to-journalists/> [http://perma.cc/J5JQ-LMYJ].

158. TEX. GOV’T CODE § 423.003 (2013).

159. See Matthew Schroyer, *Journalists Are Vulnerable from Texas Anti-Drone Law*, NPAA Lawyer Says, PROF. SOC’Y OF DRONE JOURNALISTS (Sept. 19, 2013), <http://www.dronejournalism.org/news/2013/9/journalists-are-vulnerable-from-texas-anti-drone-law-nppa-lawyer-says> [http://perma.cc/T57F-8JFT].

160. See *supra* text accompanying notes 39, 69-71.

news reporting. Multiple websites, for example, feature collections of drone videos created for their beauty rather than their news value. The *Smithsonian Magazine* recently compiled “The Most Beautiful Drone Travel Videos of 2014,” including footage taken over “the high arctic,” beside an erupting volcano in Iceland, and in Seattle and Beijing.<sup>161</sup> A new website called “Travel By Drone” allows users to select cities and other locations on a world map and then virtually “visit” these sites by watching their scenes unfold in vivid drone video footage.<sup>162</sup> Likewise, YouTube has no shortage of drone videos created by individuals or small studios, depicting topics as varied as freight train movements<sup>163</sup> and New Year’s Eve firework displays.<sup>164</sup> Drone images and videos have also been embraced by real estate agents interested in providing home seekers with views of houses and neighborhoods.<sup>165</sup> Does anyone wishing to make such an aerial video or photograph have a First Amendment right to do so? Or are free speech rights protecting drone video capture—assuming they exist—narrow in scope, protecting only certain kinds of image or video capture, certain speakers, or certain subjects?

### *B. The First Amendment Right to Record—On the Ground and in the Air*

To understand whether the First Amendment applies to government restrictions on aerial image and video capture, it is useful to look first at the recently recognized “right to record” videos on the ground. This First Amendment right is still quite undeveloped, and its contours are therefore unclear. But in a series of recent cases on

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161. See Natasha Geiling, *The Most Beautiful Drone Travel Videos of 2014*, SMITHSONIAN.COM (Dec. 18, 2014), <http://www.smithsonianmag.com/travel/most-beautiful-drone-travel-videos-2014-180953650/> [http://perma.cc/73RK-VWAN].

162. See TRAVELBYDRONE, <http://travelbydrone.com> [http://perma.cc/3QSU-TLF8] (last visited Sept 7, 2015).

163. Delay in Block Prods., *CSX Freight Train (Drone Video)*, YOUTUBE (Jan. 5, 2015), <https://www.youtube.com/watch?v=50VcZiREKBk> [http://perma.cc/RN2N-P5GJ].

164. Team BlackSheep, *Hong Kong Fireworks 2015-Filmed with a Drone*, YOUTUBE (Dec. 31, 2014), <https://www.youtube.com/watch?v=OX99sIC-MoQ> [http://perma.cc/E37L-BAGK].

165. See Jim Harger, *Real Estate Photographers Anxiously Await FAA Rules Before Publishing Their Drone Shots*, MLIVE (Sept. 3, 2014, 7:00 AM), [http://www.mlive.com/business/west-michigan/index.ssf/2014/09/real\\_estate\\_photographers\\_wait.html](http://www.mlive.com/business/west-michigan/index.ssf/2014/09/real_estate_photographers_wait.html) [http://perma.cc/JE63-EADF].

video recording of police encounters, federal courts have increasingly recognized such a right. In 2000, the Eleventh Circuit in *Smith v. City of Cumming* stated that “[t]he First Amendment protects the right to gather information about what public officials do on public property, and specifically, a right to record matters of public interest,” and held that this includes a right to “photograph or videotape police conduct.”<sup>166</sup> In 2005, the District Court for the Eastern District of Pennsylvania in *Robinson v. Fetterman* concluded that “[t]he activities of the police, like those of other public officials, are subject to public scrutiny” and, under the First Amendment, are fair game for video recording.<sup>167</sup> In 2011, the First Circuit in *Glik v. Cunniffe* found the tradition of public access to trials<sup>168</sup> also applies to “[t]he filming of government officials engaged in their duties in a public place, including police officers performing their responsibilities.”<sup>169</sup> In 2012, the Seventh Circuit in *American Civil Liberties Union of Illinois v. Alvarez* held that citizens have a right to make video and audio recordings of police actions.<sup>170</sup>

The Seventh Circuit in *Alvarez* went further than other courts have in elaborating this right, but it still left many questions unanswered. The court found that because a videographer often does not say or express any particular message while capturing video or audio footage, her actions are essential to First Amendment speech in two distinct ways. First, capture is an essential precondition to later speech: “The right to publish or broadcast an audio or audiovisual recording,” the court emphasized, “would be insecure, or largely ineffective, if the antecedent act of *making* the recording is wholly unprotected.”<sup>171</sup> Just as one could not protect the artistic expression in painting without providing some protection to the use of paint and brushes, or in musical expression without protecting musical instruments, one cannot protect video creation unless one protects an individual’s right to use cameras and point them at the subject of the film. For example, Raphael Pirker cannot screen or otherwise

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166. 212 F.3d 1332, 1333 (11th Cir. 2000).

167. 378 F. Supp. 2d 534, 541 (E.D. Pa. 2005).

168. See *Richmond Newspapers v. Virginia*, 448 U.S. 555, 576 (1980).

169. 655 F.3d 78, 82 (1st Cir. 2011).

170. 679 F.3d 583, 606 (7th Cir. 2012); see also *Gericke v. Begin*, 753 F.3d 1, 7-10 (1st Cir. 2014) (extending *Glik* protection to the recording of a traffic stop).

171. *Alvarez*, 679 F.3d at 595.

share a video telling the world about the University of Virginia campus unless he can first capture video of it.

Second, the Seventh Circuit provided a reason particular to recording of police encounters: it is essential that citizens in a functioning democracy be able to record and share evidence concerning police behavior (and misbehavior).<sup>172</sup> As the Seventh Circuit noted, for “the founding generation, the liberties of speech and press were intimately connected with popular sovereignty and the right of the people to see, examine, and be informed of their government.”<sup>173</sup> The court found a commitment to such purposes would be difficult to square with a law that, by barring the recording of police actions, “interfere[d] with the gathering and dissemination of information about government officials performing their duties in public.”<sup>174</sup>

Armed with this precedent, courts might well conclude that if citizens have a right to record police encounters or other events with their smartphone cameras on the ground, they should likewise have a right to do so from drone-mounted cameras in the sky. After all, the court’s logic applies with equal force in both situations. Because our indisputable First Amendment right to post and share videos would be “insecure” unless the First Amendment also protects the “antecedent act of *making* the recording,”<sup>175</sup> it should not matter whether we capture the video from the ground or the air. Imagine, for example, that government officials know that the First Amendment prevents them from censoring video of protests once a video has been captured. They therefore resolve to exercise such censorship indirectly by preventing reporters or other individuals from creating such videos in the first place. The Seventh Circuit’s holding is meant to rule out such an end-run around the First Amendment, and there is no reason it should apply with any less force whether the video that the government wishes to suppress is being shot from the streets or from the air. In either case, video creation is protected because it is an indispensable step in the process by which news organizations, civic-minded individuals, or others document and share with the broader public what happens in the nation’s public life. Drone video capture is thus covered by the Seventh Circuit’s

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172. *See id.* at 602-03.

173. *Id.* at 599.

174. *Id.* at 600.

175. *Id.* at 575.



argument that free speech law must protect the process of producing speech, and not simply the resulting speech itself.

Drone video capture is likewise covered by the other major pillar of the Seventh Circuit's argument. It is not only cell phone videos that help give force to the "right of the people to see, examine, and be informed of their government;"<sup>176</sup> it is also bird's eye images or videos that reveal information invisible to those on the ground. Individuals might learn important information or gain a valuable perspective from aerial footage of a protest—or the police response to it—that would be absent from the particular clips of such a protest that people can capture from their specific location within it.

In fact, the right to record recognized by the Seventh Circuit appears to shield not only drone cameras used by investigative reporters, but also those used by *anyone else* who might want to capture video that they plan to post on YouTube or another website. It is, after all, not primarily reporters, but rather conscientious bystanders (or subjects of police investigation, themselves) who have captured the cell phone videos protected by courts in cases like *Glik*, or disseminated to the public in cases such as the police chokehold leading to the death of Eric Garner<sup>177</sup> or the police shooting leading to the death of Walter Scott.<sup>178</sup>

If there is a right to record from the skies, then, it might seem that the right is a very broad one. However, the state of First Amendment law on this issue is very unsettled. As noted by Margot Kaminski in one of the only articles to examine the implications of a right to record for drone use, some courts have raised doubts about the scope of the right.<sup>179</sup> While not denying that individuals may have a First Amendment right to video- or audiorecord some matters of public interest, the Third and Fourth Circuits found that

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176. *Id.* at 599.

177. See Josh Sanburn, *Behind the Video of Eric Garner's Deadly Confrontation with New York Police*, TIME (July 22, 2014), <http://time.com/3016326/eric-garner-video-police-chokehold-death/> [<http://perma.cc/S6RU-ZAB9>] (noting that the video was shot with a cell phone camera by Garner's friend Ramsey Orta).

178. See Michael E. Miller et al., *How a Cellphone Video Led to Murder Charges Against a Cop in North Charleston, S.C.*, WASH. POST. (Apr. 8, 2015), <http://www.washingtonpost.com/news/morning-mix/wp/2015/04/08/how-a-cell-phone-video-led-to-murder-charges-against-a-cop-in-north-charleston-s-c/> [<http://perma.cc/JB8G-8QK6>] (contrasting official police account of shooting with bystander cell phone footage that captured it unbeknownst to police).

179. Margot E. Kaminski, *Drone Federalism: Civilian Drones and the Things They Carry*, 4 CALIF. L. REV. CIR. 57, 61 (2013).

such a right was not “clearly established” and that police therefore had qualified immunity when they arrested individuals recording police activities.<sup>180</sup> The Third Circuit has also noted that while individuals may have a right to record, some cases have indicated that the recording must have some “expressive purpose” to warrant First Amendment protection.<sup>181</sup>

A federal district court recently took note of these circuits’ doubts<sup>182</sup>—and added an additional one of its own—when a man sued police after they barred him from recording an accident scene from a drone. Even if there were a clearly established First Amendment right to record police from the ground, said the court, this does not mean that such a right would cover aerial recording as well.<sup>183</sup>

To be sure, these courts’ doubts about the right to record seem to be the exception to the rule. More courts have found that individuals have a right to record police encounters, and neither the Third nor Fourth Circuit deny that such a right exists—even if it is not sufficiently clear to provide a basis for suits against police. And in refusing to extend such a right to drones, the District Court for the District of Connecticut failed to explain why recording might lose First Amendment protection when it occurs from an aerial vantage point: as explained earlier, a videographer who documents and shares footage of public interests furthers First Amendment interests in precisely the same way whether the footage comes from a cell-phone camera or a drone-mounted camera.

Yet an unqualified right to create drone videos would be problematic for at least two reasons. One is that a limitless right seems to cut squarely against firmly established Supreme Court precedent. Our right to speak, the Court said fifty years ago in *Zemel v. Rusk*, “does not carry with it the unrestrained right to gather informa-

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180. See *Kelly v. Borough of Carlisle*, 622 F.3d 248, 261-62 (3d Cir. 2010) (holding that a right to record police officers was not clearly established at time of arrest); *Szymecki v. Houck*, 353 Fed. App’x. 852, 853 (4th Cir. 2009) (same).

181. *Kelly*, 622 F.3d at 262. If the Third Circuit’s suggestion here is that recording should receive First Amendment protection only when the person creating it does so with the intent to incorporate it into a subsequent communication, this argument is highly problematic for the reasons we give in the text accompanying notes 202-205 *infra*.

182. See *Rivera v. Foley*, No. 3:14-cv-00196 (VLB), 2015 WL 1296258, at \*9 (D. Conn. Mar. 23, 2015).

183. *Id.* at \*10.

tion.”<sup>184</sup> Just because one wants to write or talk about a company’s questionable practices, for example, does not mean that one has a First Amendment right to trespass in order to gain access to its facilities, or wiretap its phones to listen to its CEO’s private conversations. Rather, the Supreme Court has emphasized that although the right to free speech entails a corollary right to “receive information and ideas,”<sup>185</sup> this does not mean one can take measures to extract information from any source where she might find it. The First Amendment only gives us a right to receive information from “a willing speaker.”<sup>186</sup> Without this qualification, a right to receive information might endanger numerous government regulations long considered by courts to present no constitutional problem. Laws forbidding wiretapping or other surreptitious recording of individuals, for example, certainly prevent us from collecting data and from sharing it down the road. Without such limitation, persons equipped with cameras would be able to argue for free-for-all information-gathering rights; individuals would still be stopped by property laws from flying their drones into spaces they had no right to access, but under this conception, anywhere they had a right to be, they would also have a right to record.

There is a second problem with a virtually unqualified right to record. It would likely make it impossible for lawmakers and regulators to address one of the key worries raised about the incredible proliferation of cameras in the early twenty-first century: the potentially devastating effect they have on citizens’ anonymity and privacy. Indeed, as we noted earlier, unfettered law enforcement use of UAVs has raised deep fears about the rise of an Orwellian surveillance regime—and these fears extend to private use of UAVs as well. Justice Sotomayor gave voice to widely shared concerns when she recently said that people should be concerned about private as well as government drone surveillance.<sup>187</sup> But if citizens were armed with a First Amendment right to record everything they could from a lawful vantage point, inflicting such damage on privacy

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184. 381 U.S. 1, 17 (1965).

185. *Martin v. Struthers*, 319 U.S. 141, 143 (1943).

186. *Va. State Bd. of Pharmacy v. Va. Citizens Consumer Council*, 425 U.S. 748, 756 (1976).

187. Jacob Gershman, *Sotomayor: Americans Should Be Alarmed by Spread of Drones*, WALL ST. J. L. BLOG. (Sept. 12, 2014, 12:07 PM), <http://blogs.wsj.com/law/2014/09/12/justice-sotomayor-americans-should-be-alarmed-by-spread-of-drones> [<http://perma.cc/U28D-WDRA>].

would not only become a possibility, it would be a constitutional right. Consequently, the right to record recognized by the Seventh Circuit in *Alvarez* (and other federal and state courts before that) cannot be a right to record everything from everywhere.

How, then, might courts place principled limits on such a right to record while still acknowledging and giving force to the crucial First Amendment role that drone journalism and other drone image or video capture can play in both democratic deliberation and artistic expression? The remainder of Part II considers four options. For reasons made clear below, none of these options is satisfactory as a stand-alone limit on drone capture. Each of them, however, provides components that might be part of a sufficiently nuanced First Amendment framework for drone regulation. More specifically, courts will likely adhere to *Zemel*'s holding that surveillance or other information-gathering, taken alone, lacks First Amendment protection unless it has a substantial nexus to speech or other expression. In short, it might matter (1) what type of recording it is (photography or nonphotographic image capture), (2) who is doing the recording (journalists or someone outside the press), (3) what the recording is about (government activity or some other events that are "matters of public concern," as opposed to matters of purely private interest), and (4) whether the government's drone restriction has the purpose of thwarting speech (or perhaps keeping individuals in ignorance of public affairs or other matters of public concern). Each of these factors might place (or toughen) a First Amendment shield in front of drone surveillance that would otherwise be left vulnerable to government restriction: In the hands of photographers or filmmakers, drone image capture might become artistic expression; in the hands of journalists, or others commenting on public affairs, it might become a part of public discourse. Even when drone surveillance seems disconnected from such artistic or political expression, First Amendment values may be offended when government bars drone image capture in order to silence the speech that capture makes possible.

1. *The Type of Recording: Photography Versus  
Nonphotographic Image Capture*

For many, drone cameras immediately conjure up images—and fears—of surveillance. But drone cameras are also tools of artistic expression. Photographers and filmmakers have used them to capture aerial images and film footage. A *National Geographic* photographer and cinematographer, for example, used cameras mounted on drones and ground-based robotic vehicles to capture images of lions in Tanzania.<sup>188</sup> Likewise, an amateur photographer using drone cameras in Philadelphia captured striking images of his hometown from otherwise inaccessible vantage points.<sup>189</sup> Makers of surfing videos have explored using drones to film their sport “from a perspective that was unimaginable just a few years ago.”<sup>190</sup> And Hollywood studios have also taken note of drones’ potential as a movie-making tool: they successfully petitioned the FAA for an exemption from its drone restriction so that they can capture aerial footage for commercial films.<sup>191</sup>

However, not all drone image or video capture would likely count—in observers’ minds—as “photography,” “videography,” or “filmmaking.” When a company captures video with a surveillance camera on its property, or police do so from cameras mounted over city streets, people do not typically think of them as engaged in the art of videography or filmmaking. They are capturing images, but they are doing so not to express themselves or to create a work of aesthetic value. Rather, they obtain such images solely for the informational content found in them. In many cases, no one is making *any* choices, let alone artistic choices, about what images to capture.

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188. Amar Toor, *National Geographic Uses Drones and Robots to Capture Stunning Images of African Lions*, VERGE (Aug. 9, 2013, 10:40 AM), <http://www.theverge.com/2013/8/9/4604876/national-geographic-living-with-lions-serengeti-robot-drone-photography> [<http://perma.cc/5FFT-W39D>].

189. Emma Jacobs, *The High Art of Drone Photography*, CITYLAB (Sept. 29, 2014), <http://www.citylab.com/tech/2014/09/the-high-art-of-drone-photography/380889/> [<http://perma.cc/8YBF-7NZM>]; see also PHILLY BY AIR, <http://www.phillybyair.com> [<http://perma.cc/VDP6-B5SZ>] (last visited Sept. 27, 2015).

190. Jeff Mull, *The Rise of the Drone*, SURFER (Jan. 30, 2014), <http://www.surfermag.com/features/drones/#IktMVAfZ5zhdAOUr.97> [<http://perma.cc/3UK6-BP2P>].

191. Alan Levin, *Hollywood Drone Waivers Set Stage for More FAA Approvals*, BLOOMBERG (Sept. 25, 2014, 5:28 PM), <http://www.bloomberg.com/news/2014-09-25/hollywood-drone-waivers-set-stage-for-more-faa-approvals.html> [<http://perma.cc/78T5-JRDS>].

The video capture is often automated. It is this kind of video creation—video creating simply to find out about events the video depicts—that is typically occurring when police or others use UAV cameras or other cameras to carry out surveillance.

This distinction—between image or video capture that is integral to artistic expression and video capture that is simply a tool of surveillance—may be important in thinking about the contours of a First Amendment right to record. Long before federal courts began to recognize any such recording right, the Supreme Court stressed in the 1973 case of *Kaplan v. California* that “[p]ictures [and] films ... have First Amendment protection.”<sup>192</sup> The Court likewise assumed that right to be clear in the 1984 case of *Regan v. Time, Inc.*, when it held *Time Magazine* had a right to print photographs of U.S. currency on its cover despite laws limiting use of such photos to certain noncommercial purposes.<sup>193</sup>

One could perhaps argue that First Amendment protection for image or video capture should be limited to those images and videos that count as photographic or other artistic expression. Under this view, when drone cameras capture images or video footage for use in a nature documentary, a travel video, or even a personal photo album or YouTube video, they would receive First Amendment protection. Such protection would be absent, by contrast, when drones instead function as tools to spy upon or otherwise surveil a person or place, rather than express or communicate the views or feelings of the person recording. After all, the language of the First Amendment’s Free Speech Clause singles out “speech” or other expression for such protection.<sup>194</sup> Its language, one might urge, does not protect information-gathering that occurs in the absence of speech and independent of any communicative process or expressive endeavor. For example, the Free Speech Clause probably does not give scientists a right to take and test soil samples from a park in order to test them for chemical contamination, or a right to gather “abandoned DNA” from their fellow citizens to learn more about

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192. 413 U.S. 115, 119-20 (1973). The Court added that pictures and films may lose First Amendment protection when they are “obscene,” since “obscenity is not protected by the Constitution.” *Id.*

193. 468 U.S. 641, 645-46 (1984); *see also Ex parte Thompson*, 442 S.W.3d 325, 336 (Tex. Crim. App. 2014) (holding that “photograph and visual recordings are inherently expressive”).

194. *See* U.S. CONST. amend I.

their biological content. If these methods of gleaning information from our surroundings do not count as “speech,” then neither (one might claim) should use of technologies—like drone-mounted cameras or microphones—that capture light and sound waves to see what they tell us about the world. Indeed, legal bans on wiretapping and electronic eavesdropping arguably depend on precisely such an assumption.

Consider, for example, a law that makes it illegal to place, and record from, a hidden microphone near a bench in a public park or a public plaza.<sup>195</sup> Allowing such surreptitious sound capture seems incompatible with a society that leaves sufficient room for private conversation. Even in public spaces, people do not expect that their sometimes-sensitive discussions with friends and family members will be available for anyone who wants to record them. Courts have not classified such surreptitious audio recording as First Amendment activity (even if publishing or disseminating it might count as such), and perhaps the same rule should apply to video surveillance. In other words, image capture would count as First Amendment activity only when it is part of photography or some other conventional means of artistic or other expression, but not when it is simply a means of gathering information.

It is possible to highlight significant differences between the two ends of a spectrum that runs from (1) the photography or videography of a serious artist to (2) the automated image recording carried out by a business surveillance camera or other machine. When individuals use photography to express themselves, by telling a story from a certain perspective, or conveying thoughts and feelings, they will likely make careful choices about the visual result they wish to create. Ansel Adams, for example, spoke about visualizing what an image in nature would look like before taking the picture.<sup>196</sup> In other words, professional photographers or videographers might think about the message they wish to express and the audience response they hope to generate in some of the same ways that painters or

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195. See, e.g., 18 U.S.C. §§ 2510(2), 2511(1) (2012) (protecting against interception of “oral communications,” defined to require a justified expectation against interception).

196. See Milton Esterow, *Ansel Adams: The Last Interview*, ART NEWS (1984), <http://maryellenmark.com/text/magazines/art%20news/905N-000-001.html> [<http://perma.cc/3H52-U9FW>] (“You come across a phenomenon in nature that you can visualize as an image. Then, if you have the craft, you proceed to make it.”).

illustrators do. They will think about how to frame the objects in their picture, or how the lighting will affect its appearance. By contrast, an automated surveillance camera simply captures a visual record of whatever is in its field of view. It has no feelings or beliefs to express, and in the typical case, the persons or entities that set up such a camera and retrieve video from it do not do so to express themselves or to tell a story from a particular vantage point. They are using cameras in much the same way that some people use GPS devices to track a person or a car: to automatically record data (visual data in the case of camera, location data in the case of GPS tracking) that will inform them about facts in the world, such as whether a depicted person seems to be carrying a bag of drugs or whether a car is shown by a GPS record to have parked near the residence of a known drug dealer.<sup>197</sup>

This stance, however, is too simple. First, despite the extremes articulated above, it is far from easy for courts or others to draw a workable dividing line between photography or other expressive image capture, on the one hand, and surveillance or informational image capture that is “nonspeech” for First Amendment purposes, on the other. Most image capture that people engage in with drone cameras, or smartphones for that matter, falls between the two extremes. Even people snapping a quick photo with a smartphone typically make *some* choices about the framing or lighting of a particular shot. So too do individuals who fly cameras above their neighborhood to see what it looks like from such a vantage point. Any lack of deep attention to artistry or craft does not, taken alone, have any consequence for First Amendment protection. The Court long ago stressed that constitutional protection for artistic activity cannot depend on any judicial (or other) assessment of artistic quality or merit.<sup>198</sup>

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197. For a more complete discussion of differences between photography and automated image capture, see Marc Jonathan Blitz, *The Right to Map (and Avoid Being Mapped): Reconceiving First Amendment Protection for Information-Gathering in the Age of Google Earth*, 14 COLUM. SCI. & TECH. L. REV. 115, 131-41 (2012).

198. See, e.g., *Winters v. New York*, 333 U.S. 507, 510 (1948) (stating that “[t]hough we can see nothing of any possible value to society in these magazines [“made up of criminal news or stories of deeds of bloodshed, or lust”], they are as much entitled to the protection of free speech as the best of literature”). Indeed, the Court has recently stressed that a violent video game such as *Mortal Kombat* is entitled to as much First Amendment protection as an epic poem such as Dante’s *Divine Comedy*. See *Brown v. Entm’t Merchs. Ass’n*, 131 S. Ct. 2729,



Thus, it seems problematic to insist, as some lower courts have, that photography conducted for “recreational and aesthetic” purposes lacks the First Amendment protection that would almost certainly prevent government from censoring a professional photographer, filmmaker, or photojournalist.<sup>199</sup> The courts that have reached such a conclusion did so on the ground that purely recreational photography is not inherently expressive, and thus only counts as “speech” when there is additional evidence that the picture-taker has a communicative purpose. In *Porat v. Lincoln Towers Community Association*, a federal district court found that the First Amendment did not protect digital pictures taken of a building complex by a “photo hobbyist” because the photographer could not demonstrate he had an “intent to communicate a message to an audience.”<sup>200</sup> In *Larsen v. Fort Wayne Police Department*, another federal district court likewise found that a father trying to videotape his daughter’s choir performance at a public school was not engaged in First Amendment speech because he was videotaping not to communicate about the performance but rather only for “personal archival purposes, that is, ‘for family documentation of [his daughter’s] childhood.’”<sup>201</sup> This logic has two serious flaws. One is that even “recreational” or “personal” photo-taking typically results in some sharing of images: dedicated photo hobbyists rarely keep their work entirely from view. They post photos they capture on websites such as Shutterfly or Picasa, or, at the very least, show them to friends and colleagues. Parents who document their children’s activities likewise typically do so intending to share their videos or photos with their children and other family members. Though they might not share close to all of the photos they take, this does not distinguish them from photojournalists who might take tens or hundreds of photos intending to use only one of them. Moreover, even when an individual takes photographs or videos only for his own benefit, this does not make his photography or videography any less expressive than the written expression in a

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2737 n.4 (2011).

199. See, e.g., *Porat v. Lincoln Towers Cmty. Ass’n*, No. 04 Civ. 3199(LAP), 2005 WL 646093, at \*5 (S.D.N.Y. Mar. 21, 2005).

200. *Id.*

201. *Larsen v. Fort Wayne Police Dep’t*, 825 F. Supp. 2d 965, 980 (N.D. Ind. 2010).

private journal (which would likely be staunchly protected by the First Amendment against government restriction or punishment).<sup>202</sup>

A second difficulty in distinguishing protected photography from unprotected surveillance is that if that distinction cannot be based on attention to artistic detail, then there are similar problems in basing it upon the capturing person's goals or objectives. Photography is often as much about seeing and learning about aspects of the world that were previously invisible as it is about giving expression to a message, feeling, or story. Indeed, for some of this seeing and learning about new things, people may not only take many photos or videos with drones, smartphones, and wearable cameras (such as the GoPro cameras one can wear on a helmet or mount on bicycle handlebars)—they may use automated image capture, perhaps having a wearable camera continuously film the action unfolding in front of them.<sup>203</sup> Such automated image capture seems very similar to image capture taken from a street lamp or an overhead drone. Where then, precisely, would courts draw the line between photographic activity that is entitled to First Amendment protection and nonphotographic activity that is not?

In his detailed argument for giving all such image capture First Amendment protection, Seth Kreimer argues that any such line is constitutionally irrelevant. To Kreimer, even “ambient image capture”—not only “premeditated image capture”—should count as part of the conventional photographic activity firmly protected by the Free Speech Clause.<sup>204</sup> This argument has power, but seems to cut against the strong intuition that use of video for surveillance has less in common with photography than with nonspeech information gathering, such as electronic eavesdropping or location tracking.

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202. Consider, for example, the famous journals of Emily Dickinson and Anne Frank.

203. See, e.g., Nick Paumgarten, *We Are a Camera: Experience and Memory in the Age of GoPro*, NEW YORKER (Sept. 22, 2014), <http://www.newyorker.com/magazine/2014/09/22/camera> [<http://perma.cc/N8JB-KRKA>] (describing both situations in which individuals exercise some minimal control over the image capture by tilting their heads, but also other situations in which individuals simply engage in “life logging” all events unfolding in front of them).

204. See Seth F. Kreimer, *Pervasive Image Capture and the First Amendment: Memory, Discourse, and the Right to Record*, 159 U. PA. L. REV. 335, 347-51, 372 (2011) (arguing that the First Amendment protects “courses of action that are recognized by social practice as comprising media of expression” and that image capture generally constitutes such a social practice).

As if that were not trouble enough, there is a second problem with First Amendment jurisprudence that limits constitutional protection for drone- or other image-based capture to capture that has some artistic or expressive quality: the First Amendment value of images often lies elsewhere. Consider again *Alvarez* and other cases that have constitutionally shielded individuals who use their cell phones to record police.<sup>205</sup> What courts stress about these cell phone videos in protecting them is *not* that they are artistically created, or otherwise expressive of the recorders' distinctive views, feelings, or perspectives. What matters most for courts is that (1) the recorder was creating a video to generate and share a visual record of certain events, and (2) these events have public significance. On this account, the visual information that a camera captures about the police encounter itself has First Amendment value—and does so whether or not the camera-operator intended to engage in artistic expression. In fact, even footage of a police officer taken by an automated camera mounted on someone's dashboard, or a surveillance camera in someone's yard, seems to qualify for the right to record protection extended by *Alvarez*.

This is in part because, as Jane Bambauer has argued, capturing and sharing video in order to communicate the facts it records (for example, that a police officer hit a person) is functionally similar to recording and sharing the same information with notes, or in some other way.<sup>206</sup> Because courts would almost certainly extend First Amendment protection to a journalist's taking and sharing of notes, or a person's recounting of an event fixed in his memory, why not also extend protection to a person who records the same event with a camera? Could the First Amendment really prefer the less accurate recollection? In the Fourth Amendment context, the Supreme Court rejected a restriction on recording by undercover agents on much of these grounds.<sup>207</sup> Thus, there is a problem with trying to delineate, and rely heavily upon, a constitutionally significant line between photography and other forms of image capture.<sup>208</sup>

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205. *ACLU of Ill. v. Alvarez*, 679 F.3d 583, 606 (7th Cir. 2012).

206. Jane Bambauer, *Is Data Speech?*, 66 *STAN. L. REV.* 57, 61 (2014).

207. See *United States v. White*, 401 U.S. 745, 751 (1971) (equating an undercover agent or informant listening to one recording and/or transmitting).

208. It is worth noting that such a line currently has little significance in the FAA's regulation of UAV surveillance, which instead emphasizes the distinction between commercial

But even if a distinction between photographic and nonphotographic image capture cannot provide the key to what does and does not count as First Amendment speech, it may still have First Amendment importance. As noted before, human beings engage in countless activities to collect and learn from evidence about the world. They do so not merely by using cameras to capture light, but also by collecting and applying forensic science to physical evidence. Not all of this can conceivably count as First Amendment “speech,” even if it ultimately sheds light on matters of public importance. So the Constitution leaves the government largely free to regulate such information-gathering (subject only to rational basis review), as long as it avoids doing so in a way that is aimed at suppressing speech or preventing audiences from hearing the message (or learning the facts) such speech conveys. For example, surreptitious audio recording may not count as “speech” or other First Amendment activity. But if Congress passes a law restricting such recording *only* when it targets government officials, and *only* to prevent the public from gaining a more accurate picture of its government, the restriction may nonetheless raise First Amendment alarm bells. When, on the other hand, the government restricts such audio recording in an evenhanded, content-neutral manner, that restriction would not trigger the First Amendment at all. A similar principle might govern most drone image capture.

When drone image capture is more than simple image capture, though—when it is photography, videography, or other artistic expression—even some evenhanded and neutral regulation may run afoul of free speech law. The government may not evenhandedly bar the distribution of pamphlets on streets, even to serve legitimate

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and noncommercial activity. Under the current FAA regulations described in Part I, recreational photographers and videographers are free to capture aerial images as long as they fly their drones (safely) within visual line of sight and away from airports and air traffic. This freedom to film is not limited to those who express themselves artistically. It disappears only when the image capture becomes “commercial” in nature—and does so even when the commercial picture-taker is also a photographer, filmmaker, or other artist. In the words of one FAA spokesman, individuals may capture drone video solely for “personal use,” but “if the same person flies the same aircraft and then tries to sell the video, or uses it to promote a business, or accepts payments from someone else to shoot the video, that would be a prohibited commercial operation” and would be allowed only after specific FAA approval. Peter Corbett, *Federal Ban on Drones Doesn’t Stop Photography*, ARIZ. REPUBLIC (Jan. 21, 2014), <http://www.azcentral.com/news/politics/articles/20140114federal-ban-drones-photography.html> [<http://perma.cc/3VR7-6GXM>].

government ends such as preventing litter.<sup>209</sup> A similar evenhanded, content-neutral bar on photography or videography thus may be unconstitutional. In other words, when image capture occurs as a form of artistic expression, restriction of it might censor or damage speech, even if causing such damage is not the government's aim. And First Amendment protection for photography and filmmaking is so firmly established that the government certainly runs up against it even when targeting only *commercial* filmmaking and photography.<sup>210</sup> After all, free speech law does not permit the government to confine writers only to recreational writing by banning its commercial exercise unless they receive a license.<sup>211</sup> Similarly, the government may not prevent photographers and filmmakers from making their art the basis of professional, or profit-seeking, activity.<sup>212</sup> It is thus unlikely that the FAA may, long-term, constitutionally deny photographers or filmmakers the right to take aerial pictures as soon as they do so as part of "a commercial operation," even if commercial activity may constitutionally be subjected to heavier restriction.<sup>213</sup>

## 2. *Who Is Recording: Journalists or Others*

A second candidate for limiting the right to record is a principle that vigorously protects drone journalism but not drone surveillance or spying. If there is a First Amendment right to record from the skies, perhaps it belongs not to everyone but only to reporters. In other words, the right might not be a component of the First Amendment's "freedom of speech" guarantee, but rather of the liberty it guarantees for "the press."<sup>214</sup>

This proposed limit might solve the conundrum encountered above, when it seemingly became impossible to protect necessary drone image capture (including a civilian capturing police brutality without artistic concern) without thereby constitutionally entrench-

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209. See *Lovell v. City of Griffin*, 303 U.S. 444, 450-51 (1938) (holding unconstitutional an ordinance preventing distribution of pamphlets on city streets without a permit).

210. See *supra* notes 192-93 and accompanying text.

211. See *supra* note 198 and accompanying text.

212. See *supra* note 193 and accompanying text.

213. As for whether a commercial distinction might be permissible as a temporary step in drone integration into the national airspace, see *infra* Part IV.C.3.

214. See U.S. CONST. amend. I.

ing all surveillance.<sup>215</sup> A narrower press-based right to record from the air might answer this concern. This solution would provide some guarantee that civilian drones can capture information that is crucial for public deliberation, and that government would not have a monopoly over such information.

Consider the airspace above a large political protest or march. Given the safety hazards raised by the possibility of a UAV collision with a person or vehicle, the FAA has been reluctant to permit civilian drone use in a populated area.<sup>216</sup> The site of massive social or political protests, such as parts of Ferguson, Missouri in August 2014, might well raise such safety concerns. On the other hand, the public may worry about a situation in which the only aerial footage of such an event is created and controlled by the government. Independent evidence would be valuable in case disputes arise over the size of the protests, whether protestors were peaceful or violent, or whether police response was fair and restrained. Thus, even if it is unsafe to allow any and all citizens to fly UAVs over such an area, perhaps it is essential that there be at least *some* eyes in the sky not covered by government blinders.

The press is well-suited to play this role. First, as the Supreme Court has written, journalists often “act[] as the ‘eyes and ears’ of the public.”<sup>217</sup> Journalists, in Justice Powell’s view, often act as agents of citizens, obtaining information on current affairs that citizens cannot obtain for themselves.<sup>218</sup> Second, the First Amendment’s reference to “freedom of ... the press”<sup>219</sup> might indicate that the Framers saw newspaper and pamphlet writers as exercising a freedom different from, and perhaps in some respect broader than, the “freedom of speech.” The Supreme Court has thus far refused to adopt such a dual First Amendment jurisprudence, though, which would provide different rights for reporters than for other civilians.<sup>220</sup> But some scholars have argued that, at least when it comes

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215. *See supra* Part III.B.1.

216. FAA, *Brief History*, *supra* note 5.

217. *Houchins v. KQED, Inc.*, 438 U.S. 1, 8 (1978).

218. *See id.* at 39 (Stevens, J., dissenting) (citing *Saxbe v. Wash. Post Co.*, 417 U.S. 843, 863-64 (Powell, J., dissenting)).

219. U.S. CONST. amend. I.

220. *See Branzburg v. Hayes*, 408 U.S. 665, 682-83, 709 (1972); *see also Citizens United v. FEC*, 558 U.S. 310, 352 (2010) (“We have consistently rejected the proposition that the institutional press has any constitutional privilege beyond that of other speakers.” (internal

to information-gathering crucial to democratic deliberation, we may need to recognize a press-based right to investigate the world, or there will be no such constitutional right at all.

For example, Professor Barry McDonald first argues—echoing the Supreme Court in *Zemel v. Rusk*—that the First Amendment cannot provide all citizens the right to gather information in any way they please.<sup>221</sup> Such a broad information right would crowd out privacy protection and many other “countervailing legally recognized interests.”<sup>222</sup> Thus, says McDonald, in a clash between a right to know and a right to privacy, the First Amendment should allow the right to gather information to prevail only where the information gathering is particularly important for speech that educates Americans about public affairs.<sup>223</sup> This, in McDonald’s opinion, is precisely the information-gathering that journalists are committed to do: their mission is not to gain and share information to advance their private commercial interests, or target and embarrass enemies, or inflict other harms that often flow from invasions of privacy.<sup>224</sup> Instead, their aim is to find, and then to share with the public, information that is of public concern.<sup>225</sup> Moreover, as Paul Horwitz has pointed out, the press has a better claim than most others to be trusted with this information-gathering power.<sup>226</sup> They are governed by long-standing professional norms meant to ensure that their reporting is fair and accurate.<sup>227</sup> Whereas other individuals or entities who fly drone cameras may feel no qualms about capturing and divulging embarrassing footage of those they dislike or are curious about, reporters are professionally committed to collect information—not as a means to satisfy their own curiosity, or for their own benefit, but as agents of the public.<sup>228</sup> As Sonja West writes, the press has “distinct qualities” that make it uniquely suited to serve

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quotations omitted)).

221. Barry P. McDonald, *The First Amendment and the Free Flow of Information: Towards a Realistic Right to Gather Information in the Information Age*, 65 OHIO ST. L.J. 249, 266 (2004).

222. *Id.*

223. *Id.* at 344-46.

224. *Id.*

225. *Id.* at 353-54.

226. See PAUL HORWITZ, *FIRST AMENDMENT INSTITUTIONS* 167-71 (2013).

227. *Id.* at 169-70.

228. *Id.* at 169-71.

the role of disseminating information to the public and of serving as a “check on the government” and powerful private actors.<sup>229</sup>

Perhaps, then, if there is a right to record from the air, it is a right of the press and not of the general public. But there are significant problems with protecting only journalistic image capture. One is that a press-based right to record raises the thorny question—already confronting courts and legal scholars—of which citizens who are recording video of public events should count as “press.”<sup>230</sup> Modern journalism includes not only reporters for newspapers and television stations but also a dizzying array of smaller players: bloggers, individuals who publish webpages with news and commentary, and individuals who add information to news reports in comment sections.<sup>231</sup> All of these news sources may make valuable contributions to public discourse—and some of them may capture and report on drone footage that newspapers do not have, or do not view as sufficiently newsworthy.<sup>232</sup> But it is not clear if any or all of them should be able to invoke the freedom of press. Defined so broadly, a press-based right to record would raise many of the same problems as an unlimited right to record, leaving any blog or website contributor with a right to capture video footage of anything they could target from public space, including sensitive activities such as when people enter a doctor’s office, quietly explore a new job opportunity, purchase a book, or talk with family.<sup>233</sup> And, as Professor Horwitz points out, these new media journalists may not be as universally committed to the long-standing journalistic norms that allegedly ensure fairness and accuracy in the established press.<sup>234</sup>

In short, perhaps there is good reason the Supreme Court has refused to read the Press Clause more expansively than the Free Speech Clause, but then we are once again without a limiting principle for the right to record.

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229. Sonja R. West, *Press Exceptionalism*, 127 HARV. L. REV. 2434, 2443-44 (2014).

230. HORWITZ, *supra* note 226, at 167-72.

231. *Id.* at 167-68.

232. *Id.* at 167-70.

233. See Sonja R. West, *Awakening the Press Clause*, 58 UCLAL. REV. 1025, 1048-49, 1056, 1064 (2011) (arguing that “courts must give the term ‘press’ a meaningfully narrow definition” and that this may entail excluding some forms of new media).

234. See HORWITZ, *supra* note 226, at 169-71.



### 3. *The Subject of the Recording: Public Versus Private Matters*

Perhaps, then, a First Amendment limit on drone video capture should focus not on who is doing the recording, but rather on *what kind of activity* is recorded. Perhaps a right to record should be available to anyone—whether she is a journalist or someone else—so long as she is recording footage of something that is newsworthy. In other words, when drones capture important social events—footage of a police officer using excessive force, a social protest, or a company plant polluting a lake—such footage would be protected by the First Amendment no matter who records it. By contrast, when drone surveillance is used to capture sensitive and mundane details of individuals' day-to-day activities, such drone surveillance would fall outside the First Amendment's shield.

In certain areas of First Amendment law, courts already accord greater protection to speech on "matters of public concern." For instance, individuals or media organizers accused of defamation or intentional infliction of emotional distress receive much stronger First Amendment protection when their speech is on a "matter of public concern."<sup>235</sup> Government employees receive First Amendment protection from employer-imposed speech restriction only when that restriction targets speech on "matters of public concern."<sup>236</sup> As the Court noted in *Snyder v. Phelps*, "speech on public issues occupies the highest rung of the hierarchy of First Amendment values, and is entitled to special protection," and thus "where matters of purely private significance are at issue, First Amendment protections are often less rigorous."<sup>237</sup>

Moreover, as noted earlier, one of the Seventh Circuit's key reasons for recognizing a right to record police officers in *Alvarez* was that such footage was important for democratic deliberation.<sup>238</sup> *Alvarez* harkened back to the Supreme Court's decision in *Richmond Newspapers v. Virginia*, which gave citizens a First Amendment right to attend and observe criminal trials because all of the

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235. *Snyder v. Phelps*, 562 U.S. 443, 458 (2011); see *Dun & Bradstreet, Inc. v. Greenmoss Builders, Inc.*, 472 U.S. 749, 756-58 (1985) (discussing *Gertz v. Robert Welch, Inc.*, 418 U.S. 323 (1974)).

236. *Pickering v. Bd. of Educ.*, 391 U.S. 563, 568 (1968).

237. 562 U.S. at 452 (internal citations omitted).

238. *ACLU of Ill. v. Alvarez*, 679 F.3d 583, 600 (7th Cir. 2012).

“expressly guaranteed freedoms” of speech, press, assembly, and petition “share a common core purpose of assuring freedom of communication on matters relating to the functioning of government.”<sup>239</sup>

Like with a right to drone journalism that is confined to reporters, though, a right to record matters of public concern would likely be either (1) far too broad to provide any meaningful limits or (2) far too limiting to sufficiently protect crucial information-gathering by UAVs and the speech thereby made possible.

On the one hand, the Court’s key test for what counts as “a matter of public concern” seems potentially applicable to just about any activity. The Court has noted that “the boundaries of the public concern test are not well defined,” but might encompass “any matter of political, social, or other concern to the community,” or—in an alternative formulation—any matter that “is a subject of legitimate news interest; that is, a subject of general interest and of value and concern to the public.”<sup>240</sup> The Court treats this test as a workable guideline, but it raises numerous questions that so far have no authoritative judicial answer.<sup>241</sup> How large a portion of the community must have an interest or potential interest in the subject? The fate of a local park’s hiking trail, for example, might be of intense interest to only the few individuals in a neighborhood who make regular use of it. The fate of an old building with historical significance might interest only a small group of conservationists. Would drone footage illustrating the threats posed to such a hiking trail or building by new development count as involving a “matter of public interest?” Moreover, does the interest in the subject of someone’s speech (or drone recording) have to exist at the time that speech or

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239. 448 U.S. 555, 575 (1980).

240. *Snyder*, 562 U.S. at 452-53 (internal citations omitted).

241. Commentators have noted the vagueness and unpredictability of “the public concern” test. See Cynthia L. Estlund, *Speech on Matters of Public Concern: The Perils of an Emerging First Amendment Category*, 59 GEO. WASH. L. REV. 1, 44 (1990) (noting that “the prospect of reducing that concept to a legal test yielding predictable results” is “remote”); Chris Hoofnagle, *Matters of Public Concern and the Public University Professor*, 27 J.C. & U.L. 669, 669 (2001) (noting that there are “many cases where different courts (and different Justices) view the same set of facts, and come to opposite conclusions on whether the expression at issue pertained to a matter of public concern”); McDonald, *supra* note 221, at 346 (describing the standards for identifying matters of public concern as “fairly amorphous”); Mark Strasser, *What’s It to You: The First Amendment and Matters of Public Concern*, 77 MO. L. REV. 1083, 1119 (2012) (“[The] most disappointing [aspect] in this area has been the Court’s unwillingness to offer helpful criteria in identifying what counts as a matter of public concern.”).

recording takes place? Some issues might generate little interest from the community at one time but take on much greater importance later on—after someone presents the footage and comments on a previously ignored feature of it.

These questions are not merely academic. For example, they have significant implications for whether the numerous drone travel videos posted on websites would receive free speech protection that covers only “matters of public concern.” Without a clearer test than courts have articulated to date, it is far from certain whether drone footage of Cadillac Ranch in Amarillo, Texas,<sup>242</sup> or the Christmas light displays in downtown Naperville, Illinois,<sup>243</sup> would qualify. Thus, it might be easier for courts—instead of reserving First Amendment protection only for the ill-defined category of “matters of public concern”—to extend protection to all topics *except* matters of “private concern,” namely those details of an individual’s life that she has a right to expect will remain shielded from public observation.<sup>244</sup>

An alternative solution to this problem is to define “matters of public concern” to encompass only recording that is aimed at, or in significant part about, government activities. The problem with such a stance is that it would exclude from First Amendment protection drone footage (and other video) that is immensely valuable for other reasons. For example, consider footage that has revealed environmental contamination by company plants. The focus here is not government activity. Nor is government the subject of many other drone videos posted on YouTube and elsewhere that have appeared to generate at least as much interest as videos of political subjects. Just as maps generated by Google Earth’s planes and car-mounted cameras may be of most intense interest to people who use them to address individual problems or seek to enlighten themselves on

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242. See FlyBy Films, *Cadillac Ranch from a New Perspective—Amarillo Texas*, YOUTUBE (Aug. 5, 2013), <https://www.youtube.com/watch?v=IosjAjtmlrs> [<http://perma.cc/Y9H8-MHQQ>].

243. Andrew Meyer, *Illinois Police Chief Seeks Criminal Charges Against Man Flying Drone over City*, PINAC: BE THE MEDIA (Jan. 9, 2015), <http://photographyisnotacrime.com/2015/01/illinois-police-chief-seeks-criminal-charges-man-flying-drone-city/> [<http://perma.cc/N8FL-RTEY>].

244. Such an approach might build on Professor Ashutosh Bhagwat’s argument for treating a person’s or company’s speech as unprotected in circumstances where it entails invasion of others’ privacy. See Ashutosh Bhagwat, *Sorrell v. IMS Health: Details, Detailing, and the Death of Privacy*, 36 VT. L. REV. 855, 874-79 (2012).

matters of individual curiosity, so too may those who seek beautiful drone footage of an obscure cultural landmark, for example, derive more value from that than from drone video that serves as political commentary or education.

Perhaps the First Amendment can provide *greater* protection for videos that help citizens learn about the activities of their government. For example, drone videographers might be able to insist on more leeway to fly and record, even when doing so raises some safety concerns, if they can show that it is the only way to obtain crucial records of government activity. This does not mean that all other drone cameras should or could be left with no First Amendment protection, though, so once again we have at best an incomplete limiting principle for the right to record.

#### *4. The Purpose of Regulation*

This Article has so far assumed that drone image capture might gain the status of First Amendment expression only because of some characteristic of the image capture itself: its artistic nature, its journalist authorship, or its public concern. But it is also possible that such a camera's link to speech might be forged not by those using drones, but by the government officials who are restricting them. When government aims its restrictive power at drones not simply to rid the skies of danger, but to cut off a certain kind of speech at its source, that kind of indirect censorship might raise First Amendment concerns even if the drone surveillance it restricts would not otherwise count as First Amendment activity.

The most important precedent for this point is the Supreme Court's 2011 decision in *Sorrell v. IMS Health Inc.*<sup>245</sup> In *Sorrell*, the Court struck down Vermont's restrictions on a form of drug marketing called "detailing." Drug companies would send representatives to the offices of individual doctors to give them a carefully prepared marketing talk.<sup>246</sup> Because Vermont believed that this aggressive marketing was distorting doctors' prescribing decisions by leading them to prescribe more expensive brand-name drugs when generic drugs would work just as well, Vermont sought to blunt the effect of

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245. 131 S. Ct. 2653, 2658 (2011).

246. *Id.* at 2659.

this marketing. The state barred detailers or others from obtaining and using prescriber information to craft marketing proposals.<sup>247</sup>

The First Circuit found a similar measure by New Hampshire constitutionally unproblematic because the sale of prescription drug data was simply not the kind of commercial activity that counts as First Amendment speech.<sup>248</sup> The Supreme Court, however, rejected that logic in *Sorrell*: even assuming that prescriber information is not itself speech, speakers (drug companies) sought this information to inform a certain kind of speech (their marketing).<sup>249</sup> Vermont was aiming its regulatory power at the transfer of such prescriber information specifically to blunt the effect of drug companies' speech, which, said the Court, the First Amendment forbade. Vermont, in short, was restricting an information transfer only to certain "disfavored speakers," those who wished to engage in drug marketing, and it was doing so in order to burden their speech.<sup>250</sup>

Under this holding, the First Amendment would similarly bar drone restrictions aimed at burdening speech, even if they did so indirectly by targeting the nonspeech activity that occurs when an automated drone camera sweeps up information. If Congress or the FAA made sure certain drone footage was never created because they wanted to ensure that its contents did not enter public discourse, this attempt at censorship would run afoul of the First Amendment—and it would do so even if officials targeted the visual data upon which a speaker relied, rather than targeting his speech directly. In other words, this principle forbids *censorious* restriction of drone image capture even when that capture itself has nothing to do with photography, journalism, or speech on topics of public concern.<sup>251</sup>

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247. *Id.* at 2656.

248. *IMS Health Inc. v. Ayotte*, 550 F.3d 42, 52 (1st Cir. 2008).

249. *Sorrell*, 131 S. Ct. at 2656-57.

250. *Id.* at 2669; see also *Citizens United v. FEC*, 558 U.S. 310, 340 (2010) ("Speech restrictions based on the identity of the speaker are all too often simply a means to control content."); *id.* at 350 ("[T]he First Amendment generally prohibits the suppression of political speech based on the speaker's identity.").

251. One of us has previously argued that this principle should extend further and subject the government to First Amendment scrutiny not only when the government restricts aerial or other image capture in order to block certain speakers from speaking about a certain topic, but also when the government's aim is solely to prevent observers from gaining knowledge about their environment. See Blitz, *supra* note 197, at 183-91 (arguing that intermediate scrutiny should apply when the government's purpose is to prevent knowledge gained from

Moreover, under *Sorrell*, the government runs afoul of the First Amendment not only when it tries to *silence* a particular speaker or viewpoint, but also when it *discriminates* against a speaker or viewpoint by intentionally subjecting it to burdens not imposed on other speakers or views. “The State may not burden the speech of” those it dislikes “in order to tilt public debate in a preferred direction.”<sup>252</sup> Consequently, even where the bar on an environmental group’s drone use near a possible pollution site was a limited, rather than a complete, ban, if the government’s aim is disadvantaging such a group vis-à-vis companies the group opposes in a particular debate, then such a bar is still problematic under the First Amendment.<sup>253</sup>

As discussed above, there are several characteristics of drone image or video capture that might be relevant to First Amendment expression and therefore its protection, but each has serious complications. Indeed, in some cases, those complications might be so significant as to render the characteristic ultimately unhelpful, or at least leave it doing relatively little work on the margins. But two points are very clear: (1) some drone image and video capture must receive First Amendment protection and (2) even unprotected activity can receive First Amendment protection if the government has a censorial purpose. Part IV thus turns to what might be the scope and manner of this First Amendment protection when it comes to drone flight.

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“information-gathering activity consist[ing] solely of glancing at or snapping a photograph of something that can be observed in the public space”). Jane Bambauer similarly argues that “[w]hen a law or regulation has the very purpose of limiting knowledge, the restriction must undergo First Amendment scrutiny.” Bambauer, *supra* note 206, at 87.

252. *Sorrell*, 131 S. Ct. at 2671.

253. Ashutosh Bhagwat has recently set forth a similar proposal in a framework he proposes for analyzing the First Amendment status not only of videorecording and audiorecording but also of other “antecedent act[s] of producing speech.” Ashutosh Bhagwat, *Producing Speech*, 56 WM. & MARY L. REV. 1029, 1034 (2015). A key question, he says, is whether the social harm that government is targeting when it restricts videorecording (or other speech creation) is “unrelated to the message or communicative impact” of the speech it makes possible. *Id.* at 1063. Where it is, he argues, it might be permissible because—although it is content-based—its goal is not simply to thwart a particular message or prevent an audience from experiencing a particular visual communication. *Id.* For example, a drone law might permissibly bar videorecording at a crime or accident scene where it interferes with police officers’ ability to do their work effectively. *Id.* What it may not do, by contrast, would be to selectively restrict drone cameras to certain kinds of information in order to prevent the message they make possible.

## IV. FIRST AMENDMENT FORUM DOCTRINE

In mapping out the constitutional boundaries of government regulation of private drone use, an area of First Amendment jurisprudence that is potentially applicable—and in any case illuminating—is forum doctrine. This Part explains why, and if so, how, forum doctrine might restrict speech-burdening regulations of drone activities. Of course, applying forum doctrine to navigable airspace is novel, and there are other qualifications to doing so that are discussed below. For now, it suffices to observe that if forum doctrine does not apply in this context, then courts will need to develop *some* doctrine that serves the same function of determining the extent to which the government can exclude speech-related activities from the airspace it controls. Before developing an entirely new framework, it is certainly worth considering an established one that may give doctrinal guidance, if not definitive answers. To this end, the framework of forum doctrine is particularly useful. As this Article concludes, forum doctrine sets out the minimum First Amendment standards that may apply to UAV regulations that burden speech. It therefore provides both the floor of protection for speech-related private UAV activities, and by default the ceiling of Fourth Amendment protection against public UAV surveillance once private cameras in the skies become increasingly common and privacy expectations against what they can capture become correspondingly less reasonable.

*A. Forum Classifications and Tests*

Today, the general public may take for granted a right to engage in expressive activities on streets, parks, and other public places, having in mind perhaps the iconic marches and rallies of the Civil Rights era, if not more recent parades, protests, and other political and cultural events around the country. In the nineteenth and early twentieth centuries, however, the Court viewed government ownership of public property as dispositive of its “right to absolutely exclude all right to use” such property, including use for expressive activities.<sup>254</sup> The Court only began extending First Amendment

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254. *Davis v. Massachusetts*, 167 U.S. 43, 48 (1897).

protection to public property in the first half of the twentieth century, alongside its emerging recognition that certain public spaces such as parks, streets, and sidewalks “have immemorially been held in trust for use of the public and, time out of mind, have been used for purposes of assembly, communicating thoughts between citizens, and discussion of public questions.”<sup>255</sup>

Forum doctrine is the First Amendment framework developed by the Court to govern speech regulations on public property. Although still evolving—and potentially complex, unclear, and confusing in some respects<sup>256</sup>—the basic contours of the doctrine are fairly settled. As a general matter, forum doctrine divides government property into different kinds of “free speech zones.” Government properties of the sort described above—parks, streets, and sidewalks—are considered to be “traditional public forums,” which “occupy a special position in terms of First Amendment protection because of their historic role as sites for discussion and debate.”<sup>257</sup> In traditional public forums, a regulation that burdens speech on the basis of content (a “content-based regulation”) triggers strict scrutiny, the most stringent test in constitutional law. The regulation must be no more restrictive of speech than necessary to advance a compelling government interest.<sup>258</sup> A regulation that burdens speech for reasons other than the message (a “content-neutral regulation”) still must satisfy a form of heightened, or intermediate, scrutiny. Such a regulation—often limiting speech on the basis of time (e.g., daytime), place (e.g., away from doorways and driveways), or manner (e.g., below a certain decibel level), and thus commonly labeled a “time, place, or manner” regulation—must be narrowly tailored to promote a significant government interest.<sup>259</sup>

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255. *Hague v. Comm. for Indus. Org.*, 307 U.S. 496, 515 (1939).

256. See *infra* Part IV.A.1-2; see also Robert C. Post, *Between Governance and Management: The History and Theory of the Public Forum*, 34 UCLA L. REV. 1713, 1716 (1987) (decrying the “complex maze of categories and subcategories which constitute modern public forum doctrine” (internal quotation marks omitted)).

257. *McCullen v. Coakley*, 134 S. Ct. 2518, 2529 (2014) (internal quotation marks omitted).

258. See *id.*

259. See *id.* at 2529-35. These public forum standards—intermediate scrutiny for content-neutral regulations and strict scrutiny for content- and viewpoint-based regulations—mirror the approach the Court has adopted *outside* the context of forum doctrine, when the government is regulating speech generally rather than on its own property. See *Turner Broad. Sys. v. FCC*, 512 U.S. 622, 641-42 (1994).



The Court has rejected arguments to update the category of traditional public forums to protect modern spaces where the public may assemble and exchange ideas, including public airports<sup>260</sup> and Internet terminals.<sup>261</sup> The primary reason the Court has given in each instance—through narrow majority or plurality opinions by former Chief Justice Rehnquist—is that such modern spaces “hardly qualif[y] for the description of having ‘immemorially ... time out of mind’ been held in the public trust and used for purposes of expressive activity.”<sup>262</sup> Of course, such wooden reasoning is ripe for criticism that it would freeze the protections afforded by forum doctrine to nineteenth-century gathering places, rather than promoting the underlying principle that “in a free nation citizens must have the right to gather and speak.”<sup>263</sup> We will return to this reasoning—and criticism—as we consider the proper forum classification for navigable airspace below.

Although traditional public forums are, by these precedents, historically limited in kind, in theory the government may open up any public property generally for speech. By expressly and intentionally doing so, the government creates a “designated public forum” and voluntarily subjects that property to the same robust speech protections as traditional public forums.<sup>264</sup> But unlike traditional public forums, which arise from their historical role as hosts to free speech rather than from regulatory beneficence—and which therefore must remain open as public forums as long as the properties exist in their traditional forms—the government may close at will any designated public forum that it chooses to open.<sup>265</sup> Given the voluntary and demanding nature of designated public forums, it is hardly surprising that examples are sparse. As one

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260. *See Int’l Soc’y for Krishna Consciousness v. Lee*, 505 U.S. 672, 684-85 (1992).

261. *See United States v. Am. Library Ass’n*, 539 U.S. 194, 214 (2003).

262. *Lee*, 505 U.S. at 680 (quoting *Hague v. Comm. for Indus. Org.*, 307 U.S. 496, 515 (1939)); *see also Am. Library Ass’n*, 539 U.S. at 205 (plurality) (refusing to classify Internet access in public libraries as public forums because, “[f]irst, this resource—which did not exist until quite recently—has not ‘immemorially been held in trust for the use of the public and, time out of mind, ... been used for purposes of assembly, communication of thoughts between citizens, and discussing public questions’” (quoting *Lee*, 505 U.S. at 679)).

263. *Lee*, 505 U.S. at 696 (Kennedy, J., concurring in the judgment); *see also id.* at 698 (“[O]ur failure to recognize the possibility that new types of government property may be appropriate forums for speech will lead to a serious curtailment of our expressive activity.”).

264. *Pleasant Grove City v. Summum*, 555 U.S. 460, 469 (2009).

265. *See Perry Educ. Ass’n v. Perry Local Educators’ Ass’n*, 460 U.S. 37, 45-46 (1985).

example, the Court appears to have recognized that a municipal auditorium and theater “designed for and dedicated to expressive activities” by the general public was a designated public forum.<sup>266</sup>

Finally, all other forms of government property—which is to say, most government property—are “limited public forums” or “nonpublic forums.” These properties have not served as sites for public speech and assembly from time immemorial, nor have they been opened generally for expressive activities. Examples abound, from public airports<sup>267</sup> to post offices<sup>268</sup> and public workplaces<sup>269</sup> to public schools.<sup>270</sup> For limited public forums or nonpublic forums, speech restrictions simply must be “reasonable” and “viewpoint neutral” (i.e., not favoring one side of an issue over another).<sup>271</sup> Reasonableness is assessed “in light of the purpose served by the forum.”<sup>272</sup> A regulation need not be “the most reasonable or the only reasonable” regulation possible.<sup>273</sup>

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266. *Se. Promotions, Ltd. v. Conrad*, 420 U.S. 546, 555 (1975); *see Cornelius v. NAACP Legal Def. & Educ. Fund*, 473 U.S. 788, 803 (1985) (discussing *Southeastern Promotions*). Similarly, a policy that makes a public auditorium in Oklahoma City available for rental to the general public likely constitutes a designated public forum, and therefore rental of the facility for a “black mass” may not be denied without running afoul of the First Amendment as content- and viewpoint-based discrimination. *See* William Crum, *Oklahoma City Stance on “Black Mass” Upsets Catholic Archbishop*, THE OKLAHOMAN (July 16, 2014), <http://newsok.com/oklahoma-city-stance-on-black-mass-upsets-catholic-archbishop/article/5004625> [<http://perma.cc/X8KZ-XHC2>].

267. *See Lee*, 505 U.S. at 677-83.

268. *See United States v. Kokinda*, 497 U.S. 720, 727-30 (1990).

269. *See Cornelius*, 473 U.S. at 799-806.

270. *See Good News Club v. Milford Cent. Sch.*, 533 U.S. 98, 106-07 (2001). In the contexts of public schools and public employment, the Court has developed specialized tests for determining the extent to which speech may be regulated, *See, e.g., Tinker v. Des Moines Indep. Cmty. Sch. Dist.*, 393 U.S. 503, 511 (1969) (protecting student speech in the absence of evidence that suppression is “necessary to avoid material and substantial interference” with a school’s pedagogical mission); *Pickering v. Bd. of Educ.*, 391 U.S. 563, 568 (1968) (balancing interests of employee in “commenting on matters of public concern” versus interests of employer in “promoting the efficiency of public services”). These tests essentially define when the government acts reasonably in restricting speech to preserve public workplaces and schools for their intended uses as limited public forums. *See* *Christian Legal Soc’y Chapter v. Martinez*, 561 U.S. 661, 685-88 (2010) (considering *Tinker* and other public school cases as limited public forum cases); *see also Axson-Flynn v. Johnson*, 356 F.3d 1277, 1283-84 (10th Cir. 2004) (same).

271. *Christian Legal Soc’y*, 561 U.S. at 678-79 n.11.

272. *Good News Club*, 533 U.S. at 107.

273. *Cornelius*, 473 U.S. at 808.

Before considering the applicability of forum doctrine to navigable airspace, this Article notes several questions about the framework in order to set aside those that do not bear consideration as well as to prepare the way for those that do.

### *1. Limited Public Forums and Nonpublic Forums*

First, there is a question about terminology. As is apparent from the above discussion, classification of government property as one type of forum or another is critical for determining the amount of discretion the government has to burden speech on that property. For that reason, it is particularly unfortunate that the Court has not used its own forum labels in a clear and consistent manner. Foremost, the Court's terminology over the third category of government property—neither traditional nor designated public forums—appears to have evolved from classification in earlier case law as “nonpublic forums” to more recent labeling as “limited public forums.” For example, in *Perry Education Association v. Perry Local Educators' Association*, a foundational case wherein the Court set out what has come to be known as its “forum trichotomy,” the Court referred to the third category as a “nonpublic forum” rather than a “limited public forum.”<sup>274</sup> In another 1980s case, *Cornelius v. NAACP Legal Defense & Education Fund*, the Court similarly referred to government property that was neither a traditional nor a designated public forum as a “nonpublic forum.”<sup>275</sup> In nonpublic forums, the Court observed, the government “may reserve the forum for its intended purposes, communicative or otherwise, as long as the regulation on speech is reasonable and not an effort to suppress expression merely because public officials oppose the speaker's view.”<sup>276</sup>

Somewhat confusingly, in both of those cases, the Court rejected arguments by speakers that the government had created limited public forums.<sup>277</sup> From the Court's discussion, it appears the Court

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274. 460 U.S. 37, 49 (1983).

275. 473 U.S. at 800.

276. *Perry*, 460 U.S. at 46; see *Cornelius*, 473 U.S. at 806 (“Control over access to a nonpublic forum can be based on subject matter and speaker identity so long as the distinctions drawn are reasonable in light of the purpose served by the forum and are viewpoint neutral.”).

277. See *Cornelius*, 473 U.S. at 804; *Perry*, 460 U.S. at 47.

treated those arguments as attempts to classify the properties at issue—public school teacher mailboxes in *Perry* and a federal workplace fundraising campaign in *Cornelius*—as *designated* public forums subject to the same stringent standards as traditional public forums.<sup>278</sup> Adding to the confusion, in more recent cases, the Court has failed to mention “nonpublic forum” as a category in its forum framework, and instead has described property that is neither a traditional nor a designated public forum as a “limited public forum.” For example, in the 2009 case of *Pleasant Grove City v. Summum*, the Court referred to the mailboxes at issue in *Perry* as a *limited* public forum, subject to the same standard of reasonableness and viewpoint neutrality that it had articulated in *Perry* for nonpublic forums.<sup>279</sup> And in 2010, seeming to cement its realignment of labels—albeit in a footnote, and without acknowledgment or explanation for its evolved terminology—the Court set out its forum framework as follows:

In conducting forum analysis, our decisions have sorted government property into three categories. First, in traditional public forums, such as public streets and parks, “any restriction based on the content of ... speech must satisfy strict scrutiny, that is, the restriction must be narrowly tailored to serve a compelling government interest.” Second, governmental entities create designated public forums when “government property that has not traditionally been regarded as a public forum is intentionally opened up for that purpose;” speech restrictions in such a forum “are subject to the same strict scrutiny as restrictions in a traditional public forum.” Third, governmental entities establish “limited public forums by opening property limited to use by certain groups or dedicated solely to the discussion of certain subjects”.... “[i]n such a forum, a governmental entity may impose restrictions on speech that are reasonable and viewpoint-neutral.”<sup>280</sup>

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278. See *Cornelius*, 473 U.S. at 804-05; *Perry*, 460 U.S. at 47-48.

279. 555 U.S. 460, 469-70 (2009).

280. *Christian Legal Soc’y Chapter v. Martinez*, 561 U.S. 661, 678-79 n.11 (2010) (citations omitted). However, the Court unsettled the state of terminology again in 2015, when it seemed to return to using “limited public forum” to describe a subclass of designated public forums reserved “for certain groups or for the discussion of certain topics,” and resurrected the “nonpublic forum” label to describe what the more recent cases have called “limited public forums.” *Walker v. Tex. Div., Sons of Confederate Veterans, Inc.*, 135 S. Ct. 2259, 2250-52

Understandably, lower courts and commentators—including the authors of this Article—differ over the proper labels for the Court’s forum framework, and in particular over whether “limited public forum” and “nonpublic forum” describe the same category.<sup>281</sup> But this Article need not stake out a definitive position in this dispute, for it is at least common ground from the Court’s case law describing “nonpublic forums” and “limited public forums” that “the test for both would be the same: government regulation is allowed if it is reasonable and viewpoint neutral.”<sup>282</sup> For the sake of simplicity, this Article will use the term “limited public forum” to describe government property that is not open to the public generally for expression either by tradition or designation.

## 2. Reasonableness and Forum Purpose

This solution to the question of terminology—treating nonpublic forums and limited public forums as essentially the same for practical purposes, because whatever else might be argued about their interchangeability, the Court has so far assigned the same test to them—highlights two additional questions about the Court’s forum framework that need to be addressed before applying it to navigable airspace. Since the touchstone for assessing speech-burdening regulations in limited public forums is “whether they are reasonable in light of the purpose which the forum at issue serves,”<sup>283</sup> it is essential to understand what reasonableness means in the context of forum analysis, as well as how to determine a forum’s purpose.

As to reasonableness, it is important at the outset to clarify what it does not appear to be: traditional rational basis review. Although

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(2015) (internal quotation marks omitted).

281. See Marc Rohr, *The Ongoing Mystery of the Limited Public Forum*, 33 NOVA L. REV. 299, 300 (2009) (describing how efforts to define the components of forum doctrine remain “startlingly unclear” and have bred confusion and “[c]onfessions of uncertainty” by lower courts). Compare DANIEL A. FARBER, *THE FIRST AMENDMENT* 171-72 (3d ed. 2010) (describing three forum categories: “traditional,” “limited,” and “nonpublic”), with ERWIN CHERMERINSKY, *CONSTITUTIONAL LAW: PRINCIPLES AND POLICIES* 1166-67 (4th ed. 2011) (describing four possible forum categories: “traditional,” “designated,” “limited,” and “nonpublic,” but recognizing that the Court may have “collapsed nonpublic forums into the category of limited public forums”).

282. CHERMERINSKY, *supra* note 281, at 1166.

283. *Perry Educ. Ass’n v. Perry Local Educators’ Ass’n*, 460 U.S. 37, 49 (1983).

the Court uses “reasonable” and “rational” interchangeably in cases applying rational basis review,<sup>284</sup> the reasonableness review that the Court conducts in the context of First Amendment forum analysis differs in material respects from the deferential rationality review that it applies to Fourteenth Amendment Equal Protection and Due Process claims when no fundamental rights (such as free speech) or suspect classifications (such as racial minorities) are burdened. First, under rational basis review, the Court considers “every conceivable basis” that might support a challenged law, even those the legislature did not articulate or rely on, and will uphold the law as long as there is *some* legitimate basis that the law rationally advances.<sup>285</sup> By contrast, in conducting forum analysis, the Court measures the reasonableness of a regulation not against an entire universe of conceivable justifications that it might advance, but against only the intended purposes of the property.<sup>286</sup>

Second, under traditional rational basis review, the legislature very well may (and often does) discriminate on the basis of viewpoint. For example, Congress may pass legislation promoting one policy view over another, such as providing foreign aid to emerging democracies but not to entrenched dictatorships. But under First Amendment forum analysis, viewpoint-based burdens on speech are suspect across the board, including in limited public forums, for the government generally may not “suppress expression merely because public officials oppose the speaker’s view.”<sup>287</sup>

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284. See, e.g., *FCC v. Beach Commc’ns*, 508 U.S. 307, 313 (1993) (“In areas of social and economic policy, a statutory classification that neither proceeds along suspect lines nor infringes fundamental constitutional rights must be upheld against equal protection challenge if there is any *reasonably* conceivable state of facts that could provide a *rational* basis for the classification.”) (emphasis added).

285. *Id.* at 315 (quotations omitted).

286. See *Perry*, 460 U.S. at 46.

287. *Id.* It is not entirely clear whether the requirement of viewpoint neutrality is separate from the reasonableness requirement and admits of no exception, as the Court’s conjunctive and categorical language sometimes appears to suggest, see, for example, *Christian Legal Soc’y Chapter v. Martinez*, 561 U.S. 661, 679 (2010) (“[T]he Court has permitted restrictions on access to a limited public forum ... with this key caveat: Any access barrier must be reasonable *and* viewpoint neutral.”) (emphasis added), or whether a viewpoint-based restriction may be permitted if—and only if—it is ultimately reasonable in light of the purpose served by the limited public forum, as the Court appears to have decided in certain contexts, such as public schools, see, for example, *Morse v. Frederick*, 551 U.S. 393, 397 (2007) (upholding school policy banning student speech advocating illegal drug use), and arguably public funding, see, for example, *National Endowment for Arts v. Finley*, 524 U.S. 569, 582-

Third, given the above two distinctions, it should not be surprising—but is nonetheless worth emphasizing—that reasonableness review in the context of forum analysis, unlike rational basis review in other contexts, does not appear to accord government regulation a “strong presumption” of validity.<sup>288</sup> No Court cases assessing speech-burdening restrictions in nonpublic forums or limited public forums expressly afford such strong deference. Rather, and perhaps not surprisingly given that a fundamental right is at issue, the Court’s reasonableness inquiry in the context of forum analysis appears to demand an independent assessment of whether the regulation at issue can be said to be reasonable “in the light of the purpose of the forum and all the surrounding circumstances.”<sup>289</sup>

Finally, given that the reasonableness of a speech-burdening regulation in a limited public forum is measured against the purpose served by the property, it is critical to understand how that purpose is determined. Unfortunately, the Court has not made this clear. For some limited public forums, any explanation for the Court’s determination of the property’s purpose hardly seems necessary, as it is fairly obvious. For schools, the purpose is self-evidently education, and so the reasonableness of speech-burdening restrictions are judged by whether they are “reasonably related to legitimate pedagogical concerns,”<sup>290</sup> or whether the speech at issue threatens “material and substantial interference with schoolwork or discipline.”<sup>291</sup> For airports, the purpose is self-evidently air travel, and so regulations are reasonable if they “assure that travelers are

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583, 586 (1998) (upholding arts funding based partly on criteria of “decency and respect” as consistent with “esthetic judgments” appropriate “[i]n the context of arts funding,” and not presenting “a realistic danger” of “*invidious* viewpoint discrimination” that would “compromise First Amendment values”) (emphasis added). See *Fleming v. Jefferson Cty. Sch. Dist. R-1*, 298 F.3d 918, 924 (10th Cir. 2002) (siding with circuit courts that read *Hazelwood School District v. Kuhlmeier*, 484 U.S. 260 (1988), to permit viewpoint-based restrictions on student speech in school-sponsored activities “so long as those restrictions are reasonably related to legitimate pedagogical concerns”); see also FARBER, *supra* note 281, at 185 (contending that, “for all practical purposes,” the Court’s elaborate forum framework boils down to the simple principle that “the government may impose reasonable restrictions on the subject matter of speech (or the like) in light of the designated purpose of the facility”).

288. *Beach Commc’ns*, 508 U.S. at 314 (1993).

289. *Cornelius v. NAACP Legal Def. & Educ. Fund*, 473 U.S. 788, 809 (1985).

290. *Hazelwood Sch. Dist. v. Kuhlmeier*, 484 U.S. 260, 273 (1988).

291. *Tinker v. Des Moines Indep. Cmty. Sch. Dist.*, 393 U.S. 503, 511 (1969).

not interfered with unduly.”<sup>292</sup> For post offices, the purpose is self-evidently to send mail, and so the reasonableness of a regulation is assessed in light of its promotion of the “efficient and effective postal delivery.”<sup>293</sup>

In other contexts, public property that was obviously created to serve a primary nonspeech related purpose ends up taking on a First Amendment function as well. For example, “the principle purpose of streets and sidewalks ... is to facilitate transportation,” but their suitability as places for citizens to congregate and communicate have turned them into “quintessential public forums.”<sup>294</sup> Limited public forums may also serve important, if sometimes secondary, speech-related purposes. But the functions of limited public forums sometimes are not so easy to define and often are vigorously disputed. In such cases, the Court’s approach seems to be *ad hoc* and fact-specific, considering the “characteristic nature and function of the particular forum involved”<sup>295</sup> in light of the record and the parties’ contentions, usually starting with the government’s assertion of the function of the forum, and considering applicable policies and practices that may reinforce, refine, or refute that assertion. For example, in two of the leading cases discussed above, the Court ultimately accepted the government’s characterization of its property—teacher mailboxes reserved exclusively for “school-related business” in *Perry*,<sup>296</sup> and a workplace fundraising campaign limited to “traditional health and welfare charities” in *Cornelius*<sup>297</sup>—after first assessing it against a history of policies and practices that arguably, but not entirely, supported the government’s position. Though not treating the government’s position as “dispositive in itself” in defining the function of the forum,<sup>298</sup> the Court in these and other limited public forum cases often starts and ends with it.

Of course, it makes some sense to give weight to the government’s view of its property’s function. After all, outside the context

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292. *Int’l Soc’y for Krishna Consciousness v. Lee*, 505 U.S. 672, 684 (1992).

293. *United States v. Kokinda*, 497 U.S. 720, 732 (1990).

294. *Lee*, 505 U.S. at 696-97 (Kennedy, J., concurring in the judgment).

295. *Kokinda*, 497 U.S. at 732 (quotations omitted).

296. *Perry Educ. Ass’n v. Perry Local Educators’ Ass’n*, 460 U.S. 37, 48 (1983).

297. *Cornelius v. NAACP Legal Def. & Educ. Fund*, 473 U.S. 788, 806 (1985).

298. *Id.* at 805.



of traditional public forums, the government has the discretion to choose whether to open its property to speech generally by creating a designated public forum, or preserve its property for narrower or nonspeech related purposes as a limited public forum. The government's view as to what it has chosen is therefore certainly relevant to a determination of the property's intended use. It obviously makes little sense, however, to defer completely to the government's characterization, for the government could then tailor the intended purposes of the forum to exclude speakers and views with which it disagrees.

For instance, it would seem imminently reasonable for the government to limit the use of school facilities—including teacher mailboxes—to official school business, and thereby exclude communications from nonschool speakers, as “subject matter and speaker identity” are “inherent and inescapable in the process of limiting a nonpublic forum to activities compatible with the intended purpose of the property.”<sup>299</sup> But it would seem highly objectionable for the government to dedicate its school facilities to speech supportive of school policy and administration, and thereby exclude communications critical of the school, because the government may not exclude speech from its property simply to “discourage one viewpoint and advance another.”<sup>300</sup> Yet it is not entirely clear why the Court in *Perry* saw that case as the former rather than the latter sort and consequently permitted the school to allow an official union but not a critical rival union to communicate through the teacher mailboxes.<sup>301</sup> Similarly, in other difficult cases, whether the Court accepts the government's formulation of its forum's purposes or describes it differently ultimately seems to turn on no more than “the rule of five”<sup>302</sup>—that is, whether a majority sees it the same way as the state does.<sup>303</sup> Fortunately, it seems the core purpose of

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299. *Perry*, 460 U.S. at 49.

300. *Id.*

301. The dissenting four Justices in *Perry* vigorously contended that the school's exclusive-access policy was adopted to “amplify the speech” of the official union, which lobbied for it, “while repressing the speech” of the rival union “based on the [latter's] point of view.” *Id.* at 65-66 (Brennan, J., dissenting).

302. RICHARD H. SEAMON ET AL., *THE SUPREME COURT SOURCEBOOK* 467 (2013) (discussing Justice Brennan's catechism of law clerks on “the most important rule in constitutional law”).

303. See, e.g., *Ark. Educ. Television Comm'n v. Forbes*, 523 U.S. 666 (1998) (same way); *Rosenberger v. Rector & Visitors of the Univ. of Va.*, 515 U.S. 819 (1995) (not).

navigable airspace—safe and efficient flight, as discussed below—is neither difficult to determine nor disputed. The reasonableness of speech-burdening restrictions on UAV operations therefore should be assessed in light of that purpose.

Having set out the principles of and problems with the Court’s forum framework, we now apply it to navigable airspace to delineate the First Amendment constraints it imposes on the regulation of UAV operations.

### *B. Classifying Navigable Airspace*

The First Amendment framework of forum doctrine would be entirely irrelevant to UAV regulation if the space in which they fly—and which the FAA and other government entities seek to regulate—were private rather than public property. There is venerable, though no longer viable, authority for this view with respect to airspace over private land. The Roman law maxim *cujus est solum ejus est usque ad coelom*, translated roughly to mean “whoever owns the soil owns to heaven above,” established itself as the prevailing theory of airspace ownership under English and American common law thanks to endorsements from Lord Coke and Sir William Blackstone.<sup>304</sup> But the rise of manned flight gave the maxim “hitherto unsuspected significance,” for it implied that it would be a trespass to fly over another’s property.<sup>305</sup>

Consequently, at the advent of the aviation age, Congress sought to displace this view of airspace ownership by declaring in the Air Commerce Act of 1926 and the 1938 Civil Aeronautics Act that “[t]he United States Government has exclusive sovereignty of airspace of the United States,”<sup>306</sup> and concurrently exercising that sovereignty to grant “a public right of transit through the navigable airspace.”<sup>307</sup> The Supreme Court firmly backed this sovereign assertion in the seminal case of *United States v. Causby*.<sup>308</sup> In considering whether the low-altitude flights of military aircraft over a certain

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304. Colin Cahoon, *Low Altitude Airspace: A Property Rights No-Man’s Land*, 56 J. AIR L. & COM. 157, 161-62 (1990).

305. Leo Jaffe, *Air Law—Trespass by Airplane*, 9 TEX. L. REV. 240, 241 (1931).

306. 49 U.S.C. § 40103(a)(1) (2012).

307. *Id.* § 40103(a)(2); see DOLAN & THOMPSON II, *supra* note 73, at 2.

308. 328 U.S. 256, 261, 266 (1946).

chicken farm (literally scaring the chickens to death) constituted a taking within the meaning of the Fifth Amendment, the Court first rejected any claim of private ownership over the navigable airspace claimed by the above acts of Congress.<sup>309</sup> The Court stated that “[c]ommon sense revolts at the idea” that private property owners could clog the “public highway[s]” of navigable airspace with trespass claims.<sup>310</sup> Repudiating the Roman maxim above as having “no place in the modern world,” the Court declared that “airspace, apart from the immediate reaches above the land, is part of the public domain.”<sup>311</sup>

While *Causby* unambiguously deemed navigable airspace to be “part of the public domain,” it did not clear up all questions of ownership and regulatory authority over airspace above private property.<sup>312</sup> Foremost, Congress at the time defined navigable airspace to be “airspace above minimum safe altitudes of flight prescribed by the Civil Aeronautics Authority,” which that agency determined for air carriers to be above 500 feet for daytime flight and 1000 feet for nighttime flight.<sup>313</sup> Congress has since expanded the definition of navigable airspace over which the United States is sovereign to include not only “the minimum altitudes of flight prescribed by regulations,” but also any “airspace needed to ensure safety in the taking off and landing of aircraft.”<sup>314</sup> This expanded definition potentially encompasses “the immediate reaches above the land,” which the Court in *Causby* defined to include “at least as much of the space above the ground as [the landowner] can occupy or use in connection with the land,” and which the Court apparently deemed to be “apart” from the public domain.<sup>315</sup> Thus, it is not clear that Congress could validly claim sovereignty over the entirety of

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309. *Id.* at 260-62.

310. *Id.* at 261; cf. Owen Anderson & John D. Pigott, *Seismic Technology and Law: Partners or Adversaries*, 24 ENERGY & MIN. L. INST. 285, 390-93 (2004) (arguing that aerial magnetic surveys of underground mineral sources do not violate property rights of land and mineral owners below).

311. *Causby*, 328 U.S. at 261, 266.

312. *Id.* at 266 (deferring the determination of the “precise limits” of public airspace and private land).

313. *Id.* at 263 (quoting 49 U.S.C. § 180) (repealed 1983).

314. 49 U.S.C. § 40102(a)(32) (2012).

315. *Causby*, 328 U.S. at 264, 266 (internal citation omitted).

this expanded airspace without compensating private property owners for taking the immediate reaches of their property.<sup>316</sup>

The expanded definition of navigable airspace acquires unanticipated significance with the advent of UAVs. The FAA considers UAVs to be “aircraft” subject to its regulatory jurisdiction,<sup>317</sup> and smaller UAVs can take off and land from any park, street, or sidewalk, as well as from any private property, including anyone’s backyard.<sup>318</sup> If the UAV-navigable airspace above these properties is in the public domain, then the relevant First Amendment framework for assessing restrictions on speech-related uses arguably would be forum doctrine.

To be clear, the First Amendment would apply to any regulation of UAVs that burden speech, regardless of whether those restrictions occur on private or public property.<sup>319</sup> But to the extent regulators could claim that navigable airspace is public property—and moreover limited rather than traditional or designated public forums—they could justify any regulation burdening speech under the relatively relaxed criterion of reasonably relating to the preservation of airspace as a “public highway.”

The grounds for viewing most navigable airspace as limited public forums are not insubstantial. First, if the category of traditional public forums is restricted to those public properties that have played an essential historical role in hosting public assembly and debate, then it can hardly be said that navigable airspace *above* the immediate reaches of anyone’s property qualifies.<sup>320</sup> Birds may have

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316. See *id.* at 263 (noting hypothetically that lowering navigable airspace to eighty-three feet “would have presented the question of the validity of the regulation”).

317. See FAA, NOTICE 8900.313, EDUCATION, COMPLIANCE, AND ENFORCEMENT OF UNAUTHORIZED UNMANNED AIRCRAFT SYSTEMS OPERATORS, App. B-5—B-6 (2014), [http://www.faa.gov/documentLibrary/media/Notice/N\\_8900.313.pdf](http://www.faa.gov/documentLibrary/media/Notice/N_8900.313.pdf) [<http://perma.cc/6WC9-BZ7G>] [hereinafter FAA, NOTICE].

318. An FAA representative has thus urged that “by definition” UAVs “have extended the national airspace down to the ground.” Gregory S. McNeal, *The Federal Government Thinks Your Backyard Is National Airspace and Toys Are Subject to FAA Regulations*, FORBES (Nov. 18, 2014, 12:47 PM), <http://www.forbes.com/sites/gregorymcneal/2014/11/18/the-federal-government-thinks-your-backyard-is-national-airspace-and-toys-are-subject-to-faa-regulations/> [<http://perma.cc/4VQF-TZQM>].

319. See *supra* text accompanying notes 257-58; cf. Blitz, *supra* note 197, at 186 (noting the need for a transformation to existing public forum doctrine that would allow Google and others documenting our environment to access “not only the streets and parks on the ground, but the pathways that allow them to map and image our public spaces from the air”).

320. See *supra* note 262 and accompanying text.

flown there from “time out of mind,” but not flags. Second, it is difficult to argue that navigable airspace above the immediate reaches of land constitutes a designated public forum. Like public airports, Congress set aside navigable airspace initially for “passenger air travel,” and now for general UAV usage as well, but not for “promoting the free exchange of ideas.”<sup>321</sup> To effectuate this purpose, Congress delegated authority to the FAA to regulate navigable airspace in order “to ensure the safety of aircraft and the efficient use of airspace.”<sup>322</sup> Accordingly, navigable airspace above the immediate reaches of the land is most properly viewed for First Amendment purposes as a limited public forum devoted principally not to disseminating speech but to promoting and protecting flight.

It is less clear how to classify navigable airspace *within* the immediate reaches of the land, such as the airspace from which aircraft can take off and land. With respect to small UAVs, much of this airspace would be located above private property, and therefore arguably is not in the public domain according to *Causby*.<sup>323</sup> However, the immediate reaches over parks, streets, and sidewalks arguably are extensions of those traditional public forums in which flags, banners, and other expressive elements have extended historically.<sup>324</sup>

Certainly, treating an area as ubiquitous as navigable airspace as any kind of public forum is unprecedented. Case law has not considered a forum anywhere nearly this expansive and pervasive; even streets and sidewalks do not come close to blanketing entire communities. It may well be argued that forum doctrine—developed in an era of ground-based pamphleteering, parades, and protests—was never designed to scale up to the heights of navigable airspace. Moreover, classifying such a ubiquitous space as a limited public forum would allow the government to regulate speech literally over most of America under the lowest possible First Amendment standard.<sup>325</sup>

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321. *Int'l Soc'y for Krishna Consciousness v. Lee*, 505 U.S. 672, 682 (1992) (internal quotations omitted).

322. 49 U.S.C. § 40103(b)(1) (2012).

323. *See supra* text accompanying note 315.

324. *See supra* notes 255-57 and accompanying text.

325. *See supra* Part IV.A.1.

This Article does not take issue with any of these points. Courts should indeed proceed with caution in considering the applicability of forum doctrine to navigable airspace rather than applying the framework woodenly based on the government's proprietary and regulatory control over the space. Perhaps, as Justice Stevens has written in another context, "[i]t would be far wiser to give legislators an unimpeded opportunity to grapple with these emerging issues rather than to shackle them with prematurely devised constitutional constraints."<sup>326</sup>

That said, there is considerable practical and theoretical value in considering how forum doctrine would constrain the regulation of UAV operations. On a practical level, applying the lowest possible First Amendment standard to navigable airspace—reasonableness review in limited public forums—gives regulators much needed guidance by laying out the constitutional floor of protection for speech-related UAV operations. No other article of which we are aware offers any substantial or systematic consideration of the possible First Amendment restraints on civilian UAV regulations.<sup>327</sup> This absence of basic analysis recommends an approach that starts from the ground up (so to speak) by considering the least rigorous free speech framework that may apply to the soon-to-be drone-populated skies. Subsequent works can build on—or if they disagree, build over—the forum analysis set forth in this Article, for its purpose is to suggest a floor rather than a ceiling for First Amendment protection of speech-related UAV activities.

Accordingly, for the sake of determining that floor, this Article assumes for the moment that navigable airspace within the immediate reaches of both private property and public forums is, like navigable airspace above the immediate reaches, a limited public forum. Under the minimum First Amendment standards applicable to public property of that kind, any regulation burdening speech need only be viewpoint-neutral and reasonable in light of the purpose served by the property.<sup>328</sup>

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326. *Kyllo v. United States*, 533 U.S. 27, 51 (2001) (Stevens, J., dissenting).

327. When First Amendment issues are raised in the context of discussions of civilian UAV regulations, they typically discuss the First Amendment protections for newsgathering without any substantial analysis as to whether or how First Amendment doctrine might apply in the domain of navigable airspace. *See, e.g.*, DOLAN & THOMPSON II, *supra* note 73, at 17-19.

328. *See supra* note 271 and accompanying text.

*C. Regulating UAVs in Navigable Airspace as a Limited Public Forum*

As noted, nearly a century ago, Congress claimed navigable airspace as sovereign territory in order to grant “a public right of transit,”<sup>329</sup> and has since empowered the FAA with regulatory authority over such airspace “to ensure the safety of aircraft and the efficient use of airspace.”<sup>330</sup> And in the FAA Modernization and Reform Act of 2012, Congress further specified that the FAA should formulate “a comprehensive plan to safely accelerate the integration of civil unmanned aircraft systems into the national airspace system.”<sup>331</sup> These combined legislative directives describe the present dedicated purpose of navigable airspace to be its safe and efficient use for “cooperative manned and unmanned flight operations.”<sup>332</sup> As a result, any restrictions on expressive activities in this airspace at least must be reasonable—though not necessarily optimal—in serving this purpose and not discriminate on the basis of viewpoint.

*1. Time, Place, or Manner Regulations*

It seems fairly easy for UAV regulations to stay within these minimum First Amendment boundaries. After all, many possible restrictions on UAV use would reasonably promote the safety and efficiency of manned or unmanned flight. To these ends, any number of regulations might reasonably place limits on the altitude, speed, and weight of UAVs; on their safety features; on their proximity to other aircraft or to airports; on their distance from an operator; on the qualifications of an operator; and so on. If any such content-neutral time, place, or manner regulation incidentally burdened the use of UAVs for speech-related activities—for example, a ban on UAVs flying within a certain radius of airports would prevent their use for aerial photography within the affected airspace—it would not run afoul of the First Amendment. Such restrictions are likely to survive the kind of intermediate scrutiny that usually would apply to content-neutral restrictions that

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329. 49 U.S.C. § 40103(a)(2) (2012).

330. *Id.* § 40103(b)(1).

331. FMRA § 332(a)(1).

332. *Id.* § 332(a)(2)(F).

incidentally burden speech.<sup>333</sup> They would therefore pass muster under the less demanding “reasonableness” review applicable in limited public forums.<sup>334</sup>

## 2. *Subject Matter and Speaker-Based Regulations*

If navigable airspace is treated as a limited public forum, then the FAA and other regulators could potentially restrict UAV use based on the nature of an operator’s message or identity. As the Court has stated, “a defining characteristic of limited public forums”<sup>335</sup> is that the government may limit access “based on subject matter and speaker so long as the distinctions drawn are reasonable in light of the purpose served by the forum and viewpoint neutral.”<sup>336</sup> Thus, as noted above, the Court in *Perry* held that a public school may limit access to teacher mailboxes to groups having official business to communicate with teachers, including an official teachers’ union but not an unofficial rival union.<sup>337</sup> Similarly, a public school may limit a valediction to a student, and a government agency may limit speeches at a conference to a chosen topic.<sup>338</sup> These content-based regulations reasonably preserve the limited public forums at issue for their dedicated purposes.<sup>339</sup> However, the school could not bar the use of teacher mailboxes for official communications critical of the school, nor restrict a valediction to views favorable to the school, and the agency could not limit on-topic speeches to those consistent with the agency’s views. These restrictions discriminate on the basis of viewpoint, and in any case do not reasonably promote the underlying purposes of the forums.

Even though speaker-based and subject-based restrictions might pass muster in a limited public forum in theory, in practice it is

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333. See *United States v. O’Brien*, 391 U.S. 367, 382 (1968) (holding that a law prohibiting burning draft cards did not violate the First Amendment because it was content neutral and narrowly tailored toward a significant government interest).

334. See *supra* notes 271-73 and accompanying text.

335. *Christian Legal Soc’y Chapter v. Martinez*, 561 U.S. 661, 681 (2010) (quotations and alterations omitted).

336. *Cornelius v. NAACP Legal Def. & Educ. Fund*, 473 U.S. 788, 806 (1985); see *supra* note 271 and accompanying text.

337. See *Perry Educ. Ass’n v. Perry Local Educators’ Ass’n*, 460 U.S. 37, 55 (1983).

338. See *Christian Legal Soc’y*, 561 U.S. at 703 (Kennedy, J., concurring) (giving similar examples).

339. See *id.*



difficult to see how UAV restrictions based on speaker or subject could avoid raising serious First Amendment concerns. In contrast to the examples of public schools and government conferences, Congress has not circumscribed the use of navigable airspace by UAVs to official government business or to any other limited class of use, such as commerce, transportation, or security. Instead, Congress mandated that the FAA “integrat[e] ... civil unmanned aircraft systems” generally into the national airspace system, without further limitation as to kind or use.<sup>340</sup> Therefore, if a certain UAV use counts as First Amendment activity, such as photography, then restricting such use further on the basis of the identity of the operator (e.g., amateur photographers) or subject matter (e.g., photojournalism) would not relate to—much less reasonably promote—the purpose of preserving navigable airspace for general and presumably diverse unmanned and manned flight operations. Rather, at least in light of the broad access contemplated by Congress, limited so far only by safety considerations, favoring certain actors or subjects within a type of expressive UAV use for reasons unrelated to safety would risk repeating the constitutional infirmity the Court found in *Rosenberger v. Rector & Visitors of the University of Virginia*, in which the University of Virginia had created a limited public forum by funding student publications generally “to encourage a diversity of views,” but then undermined that very purpose by denying funding to publications with religious viewpoints.<sup>341</sup>

### 3. *Amateur Versus Commercial Use*

For the same reason, the FAA’s current ban on commercial UAV use<sup>342</sup> may become problematic, at least when it no longer reasonably serves the purpose of safely integrating UAVs into the national airspace system. The 2012 law contemplates a “phased-in approach”

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340. FMRA § 332(a)(1). Subsection 332(d) is the only part of the law that limits regulatory development of UAV operations to particular uses. It calls on the FAA to work with other agencies as well as national and international communities to designate areas and develop plans for UAV use in the Arctic “for research and commercial purposes.” *Id.* § 332(d)(1). But this directive to develop plans for limited UAV use in the Arctic only underscores Congress’s intent to dedicate the national airspace system for general UAV usage.

341. 515 U.S. 819, 831, 834 (1995).

342. See *supra* notes 58-63 and accompanying text.

to such integration.<sup>343</sup> Consistent with this approach, the law immediately allows “hobby or recreational use” of model aircraft (including some UAVs) under certain safety conditions,<sup>344</sup> and tasks the FAA with “safely accelerat[ing]” the integration of other UAV uses (including commercial ones) into the national airspace system.<sup>345</sup> Based on this timing dichotomy, as the *Pirker* case illustrates, the FAA presently allows “[t]aking photographs with a model aircraft for personal use,” but not “photographing a property or event and selling the photos.”<sup>346</sup> This categorical distinction is speaker-based, as the allowance of UAV-based photography of an event (e.g., a wedding), object (e.g., a lighthouse), or area (e.g., a landscape) turns on whether the photographer is an amateur or professional.<sup>347</sup> At present, allowing amateur but not professional photography arguably may be justified on safety grounds; allowing limited uses of UAVs while delaying broader usage pending further study, development, and testing of safety rules and technologies seems reasonable. After all, there is no question that UAV operations pose safety risks, not only to other aircraft but also to those below.<sup>348</sup> But as the amateur and commercial examples in the preceding note illustrate, safety concerns are not the unique province of commercial UAV usage. Indeed, it might seem odd that a twelve-year-old kid flying a UAV can be assumed to do so safely but a company with

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343. FMRA § 332(a)(2)(C).

344. This approach grandfathers in, but alters in several respects, the FAA’s former voluntary standards for model aircraft use by the hobbyist community. See FAA, ADVISORY CIRCULAR, *supra* note 61. Significantly, the 2012 law makes compliance with its safety rules mandatory.

345. FMRA § 332(a)(1).

346. FAA, NOTICE, *supra* note 317, at App. B-10.

347. There appears to be demand for UAV-based professional photography, as evidenced by the rising popularity of drone-based wedding photography. See Marianne Rohlich, *Bird? Plane? No, It’s the Wedding Photographer*, N.Y. TIMES (Aug. 1, 2014), [http://www.nytimes.com/2014/08/03/fashion/weddings/bird-plane-no-its-the-wedding-photographer.html?\\_r=0](http://www.nytimes.com/2014/08/03/fashion/weddings/bird-plane-no-its-the-wedding-photographer.html?_r=0) [http://perma.cc/AC3H-7T5V].

348. See, e.g., J. David Goodman, *Remote-Controlled Model Helicopter Fatally Strikes Its Operator at a Brooklyn Park*, N.Y. TIMES (Sept. 5, 2013), [http://www.nytimes.com/2013/09/06/nyregion/remote-controlled-copter-fatally-strikes-pilot-at-park.html?\\_r=0](http://www.nytimes.com/2013/09/06/nyregion/remote-controlled-copter-fatally-strikes-pilot-at-park.html?_r=0) [http://perma.cc/KW76-2SAX]; Emanuella Grinberg & Vivian Kuo, *Enrique Iglesias Injured in Concert Mishap with a Drone*, CNN (June 2, 2015, 12:05 AM), <http://www.cnn.com/2015/05/31/entertainment/enrique-iglesias-drone-feat/index.html> [http://perma.cc/NGK4-8DAY]; James Nye, *Fail! Photographer’s Drone Smacks Groom in the Head as He Looked for the Perfect Shot*, DAILYMAIL (Aug. 16, 2013), <http://www.dailymail.co.uk/news/article-2395933/Fail-Photographers-drone-smacks-groom-head-looked-perfect-shot.html> [http://perma.cc/AK9X-E6QJ].

assets, insurance, training, and expertise is held to the contrary assumption. Accordingly, when—as a result of rulemaking, technology, or both—it is safe for amateur and commercial UAVs to share navigable airspace, then it would no longer reasonably promote the purpose of the forum to allow only the former but not the latter.

It is too early to judge whether the FAA's current restriction on commercial UAV use will survive future First Amendment scrutiny. There is reason at present for both optimism and caution. On the optimistic side, the 2012 law permits the FAA to grant exemptions for UAV operation before it has completed its formal rulemaking for general UAV usage,<sup>349</sup> and the FAA has begun to do so. As widely reported, the FAA first granted six Hollywood production firms exemptions to operate UAVs for capturing aerial footage for films.<sup>350</sup> Based on the firms' self-imposed safety conditions (e.g., requiring operators to hold private pilot certificates, flying strictly within the line of sight, and operating only on set), as well as additional requirements imposed by the FAA (e.g., inspecting UAVs before each flight and operating only in daytime), the agency found the proposed uses met the statutory criteria of not posing a safety hazard to other aircraft or the public and not posing a threat to national security.<sup>351</sup> If the FAA proceeds to grant exemptions to other applicants who can demonstrate a similar level of safe usage, including, for example, journalists and other commercial photographers and videographers, then the FAA could credibly argue that its incremental expansion of commercial UAV operations is reasonable on safety grounds. If, however, the FAA denies exemptions to future applicants wishing to use UAVs for other speech-related activities (e.g., sports photographers and videographers) without a reasonable

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349. See FMRA § 333.

350. See Richard Verrier, *FAA Gives Drone Exemption to Hollywood Production Firms*, L.A. TIMES (Sept. 25, 2014), <http://www.latimes.com/entertainment/envelope/cotown/la-et-ct-hollywood-drones-20140925-story.html> [<http://perma.cc/U26N-KURU>]. The FAA has since granted exemptions for aerial surveying, construction site monitoring, and oil rig flare stack inspection, among others, and the pace of exemptions has picked up rapidly. See Press Release, FAA, *FAA Grants Five More Commercial UAS Exemptions* (Dec. 10, 2014), [http://www.faa.gov/news/press\\_releases/news\\_story.cfm?newsId=17934](http://www.faa.gov/news/press_releases/news_story.cfm?newsId=17934) [<http://perma.cc/Z6QU-HKBJ>]; *supra* note 54.

351. See Press Release, *supra* note 23. For the formal orders granting the exemptions, see FAA, *Section 333*, *supra* note 54.

distinction based on safety, then the FAA would open itself up to a credible First Amendment challenge.<sup>352</sup> As the Court cautioned in *Perry*, even in a limited public forum, “[w]hen speakers and subjects are similarly situated, the State may not pick and choose.”<sup>353</sup>

Ultimately, given Congress’s mandate for the FAA to “safely accelerate” the integration of civilian drones generally into the national airspace system, the agency will find it increasingly difficult as a statutory and constitutional matter to justify grounding similarly safe UAV operations on the basis of industry, use, or speech content.

#### 4. *Privacy*

In the public mind, UAVs can raise the specter not only of death but also the death of privacy. The Orwellian image of an all-seeing eye in the sky is approaching technological feasibility,<sup>354</sup> and not coincidentally, it has raised privacy concerns at all levels and across all branches of government. As described in Part I, such concerns have prompted state and local privacy-related UAV legislation, the consideration in Congress of privacy protections against civilian drone surveillance,<sup>355</sup> and the preparation of a White House directive for federal agencies to disclose their UAV operations and data collection practices and policies.<sup>356</sup> In a recent speech, a Supreme Court justice remarked that “[t]here are drones flying over the air randomly that are recording everything that’s happening on what we consider our private property,” and such “technology has to stimulate us to think about what is it that we cherish in privacy and how far we want to protect it and from whom,” including from corporations and from private citizens.<sup>357</sup>

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352. So far, the FAA seems to be granting exemptions for a wide variety of commercial uses, including many speech-related ones. See FAA, *Authorizations Granted via Section 333 Exemptions*, *supra* note 54.

353. *Perry Educ. Ass’n v. Perry Local Educators’ Ass’n*, 460 U.S. 37, 55 (1983).

354. See, e.g., Timberg, *supra* note 139.

355. See *supra* Part I.

356. See Craig Whitlock, *White House Plans to Require Federal Agencies to Provide Details About Drones*, WASH. POST (Sept. 26, 2014), [http://www.washingtonpost.com/world/national-security/white-house-plans-to-require-federal-agencies-to-provide-details-about-drones/2014/09/26/5f55ac24-4581-11e4-b47c-f5889e061e5f\\_story.html](http://www.washingtonpost.com/world/national-security/white-house-plans-to-require-federal-agencies-to-provide-details-about-drones/2014/09/26/5f55ac24-4581-11e4-b47c-f5889e061e5f_story.html) [<http://perma.cc/W5QM-Q2VX>].

357. Gershman, *supra* note 187.

Current federal law, including the 2012 FAA integration requirement, does not mention privacy grounds, much less limit UAV operations on privacy grounds. Until the adoption of legislation doing so, could the FAA nonetheless regulate civilian UAVs to protect privacy? The answer is not entirely clear.

On the one hand, as discussed above, the Court's cases suggest that the government may not suppress speech that cannot reasonably be regarded as interfering with the uses of a limited public forum for its "intended purposes."<sup>358</sup> For example, with respect to public schools—whose primary mission is to educate students rather than to provide a platform for private student speech—the Court memorably stated that students do not "shed their constitutional rights to freedom of speech or expression at the schoolhouse gate."<sup>359</sup> Accordingly, school officials may not suppress personal student expression (e.g., a black armband in that case to protest the Vietnam War) absent a showing that such speech "materially and substantially interfere[s]" with the school's teaching mission.<sup>360</sup> Likewise, in courthouses,<sup>361</sup> government workplaces,<sup>362</sup> or other limited public forums, several cases essentially have required the government to tolerate speech that does not interfere with the purposes of those properties. Based on these precedents, private individuals and corporations whose use of UAVs for photography, videography, information-gathering, or other speech-related activities that could raise privacy concerns might argue that the FAA has no business restricting UAV use based on privacy or any other concerns unrelated to preserving navigable airspace for safe and efficient flight operations.<sup>363</sup>

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358. See *supra* notes 286-93 and accompanying text.

359. *Tinker v. Des Moines Indep. Cty. Sch. Dist.*, 393 U.S. 503, 506 (1969). For an explanation of why public schools are properly regarded as a subset of limited public forums, see *supra* note 270.

360. *Tinker*, 393 U.S. at 509 (quotations omitted).

361. See *Cohen v. California*, 403 U.S. 15, 16 (1971) (jacket proclaiming "F\*\*\* the Draft" worn in hallway of municipal courthouse).

362. See *Rankin v. McPherson*, 483 U.S. 378, 380 (1987) (worker in county constable's office remarking to co-worker upon learning about attempted assassination of President Reagan that "[i]f they go for him again, I hope they get him").

363. It could be argued that these cases involve the expression of political speech, which is at the core of First Amendment protection. Cf. *N.Y. Times Co. v. Sullivan*, 376 U.S. 254, 270 (1964) (affirming "profound national commitment" embodied in First Amendment "to the principle that debate on public issues should be uninhibited, robust, and wide-open"). But it

On the other hand, another line of cases recognizes the authority of the government to restrict speech-related activities that pose substantial privacy concerns or otherwise interfere with the use and enjoyment of adjoining private property. For example, in *Frisby v. Schultz*, the Court upheld an ordinance prohibiting targeted residential picketing—that is, picketing taking place in front of a single residence.<sup>364</sup> As a general matter, the Court observed that the government’s “interest in protecting the well-being, tranquility, and privacy of the home is certainly of the highest order in a free and civilized society.”<sup>365</sup> With respect to targeted residential picketing, the Court also recognized an “important aspect of residential privacy” to be the “protection of the unwilling listener,” who is “captive” in the home, from speech that “inherently and offensively intrudes on residential privacy.”<sup>366</sup>

Additionally, in *Ward v. Rock Against Racism*, the Court upheld regulations controlling sound volume at the band shell in Central Park partly based on the government’s “substantial interest” in protecting residential neighborhoods from “unwelcome noise.”<sup>367</sup> These cases involve speech in public forums, but their recognition of substantial regulatory interests in protecting residential privacy and tranquility applies with full force to the less speech-protective category of limited public forums.<sup>368</sup>

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is far from clear that nonpolitical speech is any less protected than political speech under the Court’s modern case law. See *Brown v. Entm’t Merchs. Ass’n*, 131 S. Ct. 2729, 2737 n.4 (2011) (stating that “[r]eading Dante is unquestionably more cultured and intellectually edifying than playing Mortal Kombat,” but “these cultural and intellectual differences are not constitutional ones,” for “[e]ven if we can see in them nothing of any possible value to society, they are as much entitled to the protection of free speech as the best of literature”) (quotations and ellipse omitted); cf. *Cohen*, 403 U.S. at 25 (stating that “one man’s vulgarity is another’s lyric,” and therefore “because governmental officials cannot make principled distinctions in this area ... the Constitution leaves matters of taste and style so largely to the individual”). In any case, UAVs of course may be used for political speech (e.g., photojournalism or filmmaking on matters of public concern), and such uses at times may threaten privacy as much as other image-capturing or information-gathering uses.

364. 487 U.S. 474, 488 (1988).

365. *Id.* at 484 (internal quotation marks omitted).

366. *Id.* at 484, 486.

367. 491 U.S. 781, 796 (1989).

368. See, e.g., *Rowan v. U.S. Post Office Dep’t*, 397 U.S. 728, 729 (1970) (upholding statute permitting homeowners to restrict delivery of offensive materials to their mailboxes); cf. *Cohen*, 403 U.S. at 21 (1971) (“The ability of government, consonant with the Constitution, to shut off discourse solely to protect others from hearing it is ... dependent upon a showing that substantial privacy interests are being invaded in an essentially intolerable manner.”).

At the least, these cases provide authority for legislation to limit UAV operations on privacy grounds. They might support rules restricting targeted UAV surveillance of a single residence and perhaps entire residential neighborhoods, as persistent and focused aerial monitoring of homes may expose the comings and goings of residents, as well as outside and inside activities,<sup>369</sup> in ways and degrees (beyond the prying eyes of a nosy neighbor or occasional satellite image) that “inherently and offensively intrude[] on residential privacy.”<sup>370</sup> For the same reason, these cases might also support duration-based limits on aerial recording—for example, no longer than half an hour per day over any particular home, which would meaningfully protect residential privacy while leaving a reasonable window for speech-related image gathering.<sup>371</sup>

Alternatively, the FAA might argue that its existing mandate to ensure “safe operation” of UAVs is sufficiently ambiguous to allow it to protect those below flying aircraft from privacy harms as well as physical harms.<sup>372</sup> Or, the FAA might argue that Congress’s direction for it to come up with a “comprehensive plan to safely accelerate” UAV integration in the national airspace system is broad enough to permit it to include nonsafety considerations such as privacy.<sup>373</sup> Finally, the FAA might contend that, just as “strict incompatibility between the nature of the speech or the identity of the speaker and the functioning of the nonpublic forum is not mandated” in order to restrict access, so too a strict relationship between a speech-burdening regulation and the purpose of the forum is not necessary as long as the regulation is reasonable in

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369. See, e.g., Thomas Jung & Frank Liebelt, *Thermography Drone for Aerial Recordings Using the FLIR T640bx Thermal Imaging Camera*, FLIR, <http://www.flir.co.uk/cs/display/?id=60572> [<http://perma.cc/YT2V-3AVZ>]; cf. *Kyllo v. United States*, 533 U.S. 27, 40 (2001) (holding that police surveillance of a home with even a relatively primitive thermal imager invades a “reasonable expectation of privacy” and hence constitutes a “search” within the meaning of the Fourth Amendment).

370. *Frisby*, 487 U.S. at 486.

371. Half an hour is a durational limit that seems reasonable to the four co-authors of this Article, who hold differing views on the relative values of expression and privacy. That said, the point is less that *this* particular duration would pass muster, than that *some* reasonable durations should.

372. FMRA § 332(a)(2)(H) (emphasis added).

373. *Id.* § 332(a)(1) (emphasis added).

promoting *some* legitimate or substantial government interest, including privacy.<sup>374</sup>

We are skeptical that Congress had privacy in mind when it ordered the FAA to “safely accelerate” UAV integration into the national airspace system. The 2012 law is replete with references to, and requirements for, “safe” UAV operations;<sup>375</sup> by contrast, it does not mention “privacy” at all. As subsequent bills in Congress have shown, its members are cognizant of the privacy concerns raised by UAVs and perfectly capable of drafting legislation to address those concerns directly.<sup>376</sup> At most, and perhaps with the benefit of *Chevron* deference to the FAA’s administrative expertise,<sup>377</sup> the agency might persuade a court (though not the authors) that the law is ambiguous with respect to whether it delegates to the agency the authority to regulate UAVs on privacy grounds, and therefore leaves the agency discretion to do so.<sup>378</sup> As for the contention that any speech-burdening regulation that reasonably promotes *some* legitimate or substantial government purpose should pass muster regardless of whether that purpose is related to the dedicated function of the limited public forum, the Court itself has admonished that “[t]he reasonableness of the Government’s restriction of access to a nonpublic forum *must be assessed in the light of the purpose of the forum.*”<sup>379</sup>

In short, if navigable airspace is treated as a limited public forum, then the FAA would have regulatory leeway to incidentally or directly burden speech-related UAV activities if doing so would reasonably promote safe unmanned and manned flight operations. The FAA would find itself on firmest ground regulating the time, place, or manner of UAV operations for safety reasons. The FAA could also phase in speech-related UAV activities based on speaker identity or subject matter as long as such incrementalism is

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374. *Cornelius v. NAACP Legal Def. & Educ. Fund*, 473 U.S. 788, 808 (1985).

375. See FMRA § 332.

376. See *supra* notes 38-39.

377. See *Chevron, U.S.A., Inc. v. Nat. Res. Def. Council, Inc.*, 467 U.S. 837, 842-44 (1984).

378. It does not seem, however, that the FAA is eager to enter the privacy regulation business. See Nathan D. Taylor & Adam J. Fleisher, *Drone Privacy Issues Increase Washington’s Focus*, LAWFUEL (Jan. 26, 2015) <http://www.lawfuel.com/drone-privacy-issues-increase-washingtons-focus> [<http://perma.cc/M4ZA-QUPL>] (noting FAA articulation “that its mission ‘does not include regulating privacy’”).

379. *Cornelius*, 473 U.S. at 809 (emphasis added).



reasonably related to safety and not viewpoint-based. For example, permitting only amateur operations until the adoption of safety rules or technologies makes it safe to allow wider commercial utilization of navigable airspace. However, given Congress's goal of opening up navigable airspace for general UAV usage, the FAA must eventually allow all speech-related UAV activities regardless of subject matter or speaker identity as long as those activities satisfy generally applicable safety regulations. Finally, and perhaps surprisingly, the FAA does not appear to have the general regulatory authority, even in the speech-restrictive setting of a limited public forum, to restrict UAV uses that pose privacy rather than safety concerns. Congress likely needs to identify privacy as a relevant regulatory interest in the national airspace system before the FAA may regulate to protect those below from prying eyes as well as from falling aircraft. It should do so, and promptly.

Of course, urging Congress to identify privacy as a regulatory interest for the national airspace system is not the same as suggesting that such a legislative declaration would be free from constitutional constraints or would resolve all doctrinal difficulties with the Court's "incompletely theorized" framework of forum analysis.<sup>380</sup> Indeed, whether as part of national or local legislation—the former of which is preferable for reasons of uniformity and efficiency—an assertion of privacy as a regulatory interest would raise additional questions within the forum framework. Foremost, could navigable airspace even be redefined legislatively to include privacy within its regulatory dimensions? On the one hand, as discussed above, apart from traditional public forums, the government has great leeway to dedicate its property for its intended uses, and its definition of those uses has been accorded substantial, if not dispositive, weight.<sup>381</sup> Furthermore, if the government could rely on a general regulatory interest in residential privacy to limit expressive activities even in the robust speech zones of traditional public forums,<sup>382</sup> then it seems likely that courts would sanction the legislative adoption of privacy as a regulatory goal for navigable airspace as a limited public forum.

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380. See Cass R. Sunstein, *Incompletely Theorized Agreements*, 108 HARV. L. REV. 1733, 1736 (1995).

381. See *supra* notes 264-66 and accompanying text.

382. See *supra* notes 366-71 and accompanying text.

On the other hand, the “characteristic nature and function of the particular forum involved” also play a role in defining the dedicated purposes of the forum at issue,<sup>383</sup> and under the seemingly ad hoc totality of circumstances approach the Court has taken, relevant considerations arguably include historical and contemporary uses of the forum as well as its physical characteristics.<sup>384</sup> And in the case of navigable airspace, the very characteristics that make it a threat to privacy—the literally and figuratively heightened view it offers of property, people, and activities below—are also those that make it particularly valuable and increasingly popular for image capture, information-gathering, and other potentially speech-related UAV uses. At the least, therefore, if navigable airspace continues to grow more “suitable for discourse”<sup>385</sup> as UAV technology advances and their speech-related uses become more common, then courts should hesitate to approve any legislative assertion of privacy so broad as to leave little room for citizens to produce speech—if not directly to “gather and speak”<sup>386</sup>—in such a unique and extensive forum as the skies. For even under the reasonableness test applicable to limited public forums, if the “characteristic nature and function” of navigable airspace include its suitability as a situs for speech production alongside legislatively defined purposes such as safety and privacy, then regulations that fail to reasonably balance the expressive potential of the forum against legitimate safety and privacy concerns strike us as problematic.

Consider, for example, a flat ban on UAV image gathering. For starters, if the legislative background only recognizes safety as a regulatory interest—as is currently the case with respect to the national airspace system—it is doubtful that such a speech-burdening ban could survive even reasonableness review. It would be difficult to argue that the privacy-protective rule would relate to, much less be reasonable in light of, the dedicated purpose of the forum. But if navigable airspace could be redefined to include privacy protection as a dimension, then the ban would stand on a firmer

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383. *United States v. Kokinda*, 497 U.S. 720, 732 (1989) (quoting *Heffron v. Int'l Soc'y for Krishna Consciousness, Inc.*, 452 U.S. 650-51 (1981)).

384. *Int'l Soc'y for Krishna Consciousness, Inc. v. Lee*, 505 U.S. 672, 695 (1992) (Kennedy, J., concurring in the judgment).

385. *Id.* at 698.

386. *Id.* at 696.

constitutional footing. Whether such a ban ultimately would survive First Amendment scrutiny would depend, in our view, on whether the expressive potential of the forum is considered an inherent and infeasible part of its purpose, and therefore one of the guideposts for determining reasonableness. If not, then the ban should survive, as it more than reasonably promotes one of the dedicated purposes of the forum without undermining any other. But if so, then the severe imbalance between its bolstering of privacy and its burdening of speech should render the ban at least constitutionally suspect if not clearly unsound.

Alternatively, consider a more modest legislative response to privacy concerns raised by civilian UAV usage. Suppose that the FAA, with an appropriate legislative mandate to address privacy as well as safety, and the acquisition of expertise in both privacy and free speech, (1) channels UAV image gathering to a dedicated “eye zone” in navigable airspace between the ground and 500 feet over public parks, streets, and sidewalks, and between 300 and 500 feet over private property, (2) imposes a durational limit of half an hour of recording per day over a private residence, and (3) restricts image gathering to cameras without telephoto or other sense-enhancing capabilities.<sup>387</sup> This content-neutral time, place, and manner regulation arguably strikes a reasonable constitutional balance between the protection of privacy—ultimately, not ceding much more than the Fourth Amendment flyover cases already have done—and the preservation of ample aerial space for unique and valuable speech-productive First Amendment activities.

The larger point here is not to promote one model of legislation over another, or to “bet the farm” on this preliminary assessment of the constitutionality of these two legislative examples. Rather, these examples illustrate when and how privacy may support UAV legislation given the important First Amendment interests at stake.

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387. Proposed legislation would require drone manufacturers to include technology to “geofence” drones by height (no higher) and place (no closer). *See* Consumer Drone Safety Act, S. 1608, 114th Cong. § 3(b)(1) (2015), [http://www.feinstein.senate.gov/public/index.cfm/files/serve/?File\\_id=15de3392-f880-4d12-8aef-861ab6455f98](http://www.feinstein.senate.gov/public/index.cfm/files/serve/?File_id=15de3392-f880-4d12-8aef-861ab6455f98) [<http://perma.cc/PD7C-TZ8H>]. This sort of technology would facilitate compliance with time, place, or manner restrictions such as those considered above.

## V. FOURTH AMENDMENT REPRISÉ

As developed above, as a default matter at least, the Fourth Amendment includes a public disclosure doctrine that does not alone require police to shield their eyes.<sup>388</sup> Thus, if private persons are conducting certain drone surveillance and that surveillance is not contracted for or consented to, then law enforcement will likely be constitutionally permitted to do the same, without obtaining a warrant or other judicial preclearance, and without any threshold level of suspicion. This, along with the private search doctrine and the third party doctrine, means that as private drone recording increases, so does law enforcement access to such recording.<sup>389</sup> Nothing about this should be too startling, as of course law enforcement is expected to use reasonable means at its disposal to keep people safe from those who would do harm. But there is always the question of who watches the watchers, and healthy distrust of government is as American as apple pie. So, having analyzed what the First Amendment protections for private flight might be, what precisely do they indicate for government flight?

Unfortunately, between uncertainty in the First Amendment right to record, in the applicability as well as application of forum doctrine, and in what social norms will develop around increasingly popular and sophisticated UAV technology, it is not yet clear what default permissions law enforcement will enjoy. To start, it is unclear what relevance courts might give the reasons behind the First Amendment privilege. If courts ultimately privilege private recording of police and other government conduct given its essential role in deterring or outing government abuse, then such recording arguably would not support any government claim to record the rest of us.<sup>390</sup> On the one hand, the Fourth Amendment public disclosure principle is not predicated on the *reason* for the private access, but rather on the foundational default that if in fact private

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388. See *supra* Part II.

389. Unless, of course, a legislature restricts private disclosure to law enforcement. See, e.g., 18 U.S.C. § 2702(a)(3) (2012) (permitting a public provider to voluntarily disclose electronic communications to the government only in certain instances).

390. Or would it, if the government convincingly argued that only through more indiscriminate recording can it more fairly apply laws?

persons are routinely doing “x,” there is little good reason to prevent law enforcement from doing the same. But if the only privilege is to record *government* actors, then private persons may in fact not typically be recording private actors.

If First Amendment protections were limited to artistic aerial image capture, that would seem to have little play for law enforcement and other government recording *except* it might make recording so commonplace that it would be odd to claim a reasonable expectation against it. The same is true if only journalists receive protections given their constitutionally mentioned—and perhaps ensconced—role as “the press.” And to the extent that the courts ultimately grant a more universal First Amendment right to record and gather information, it will indeed shift the Fourth Amendment default *if* private persons take to routinely recording.

Hence, this is another ground of uncertainty. To impact the Fourth Amendment, it is not sufficient that the First Amendment *permits* certain private behavior: it is only if that behavior becomes commonplace that it is unreasonable as a default matter to expect privacy against the government doing the same. It is possible, though perhaps not likely in the era of YouTube and social media, that social norms will develop that sharply restrict drone recording. For example, even though thermal imagers have been relatively cheaply available for some time,<sup>391</sup> we are not aware of them being generally used to image other people’s homes, and thus no court has deviated from *Kyllo*’s 2001 holding restricting law enforcement use.<sup>392</sup> And backlash against wearers of Google Glass was at least one reason for it being discontinued in its then-available form.<sup>393</sup> On the other hand, if drones with long flight times, very small size, and autonomous tracking become routinely available, aerial recording might become pervasive. People might take to having a private security or lifelogging drone tail them in public, thereby recording

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391. See, e.g., FLIR, <http://www.flir.com/flirone/> [<http://perma.cc/L776-DVVZ>] (last visited Sept. 27, 2015).

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

393. See Michael Finney, *Backlash Grows over People Wearing Google Glass*, ABC7 NEWS (May 18, 2014), <http://abc7news.com/technology/backlash-grows-over-people-wearing-google-glass/66211/> [<http://perma.cc/S5BY-9YX7>]; Sam Sanders, *Public Sales of Google Glass to End Later This Month*, NPR (Jan. 15, 2015, 5:55 PM), <http://www.npr.org/sections/thetwo-way/2015/01/15/377507746/public-sales-of-google-glass-to-end-later-this-month> [<http://perma.cc/WV7Z-VV3Y>].

not only their movements but all those with whom they come into contact. Only time will tell.

Whatever the case, as this Article has developed, the constitutional rights are critically interconnected. Thus, if public forum doctrine ultimately permits an “eye zone” such as that described above,<sup>394</sup> and if private persons take to routinely flying and recording, then as a default Fourth Amendment matter, law enforcement would likely be able to fly their drones in the same manner, with the same cameras, and for the same durations.<sup>395</sup> Whatever they could view in that manner would likely be fair game for federal law enforcement unless restricted by Congress, and for state law enforcement unless restricted by Congress (perhaps indirectly) or the respective state legislature.

### CONCLUSION

We cannot know all the myriad ways in which UAV flight will change our society: such flight in the United States is in its infancy, mainly as a hobby or as a closely regulated experiment. It is thus impossible to predict the different ways social norms may develop to accommodate the increasing tensions between privacy and freedom of expression brought about by advances in technology, and impossible to know how judges, legislators, and administrators will react. But as this Article demonstrates, there is a constitutional foundation in both the First and Fourth Amendments upon which legal actors should build, and those two constitutional rights are intertwined in an important manner. As a Fourth Amendment matter, police likely will not be the only ones who cannot fly, and so to the extent private flight and accompanying surveillance develop behind a First Amendment shield—including an increasingly recognized right to record—Fourth Amendment restraints upon law enforcement surveillance will relax correspondingly.

Yet First Amendment protection for speech-related UAV activities should not be unlimited, because respecting privacy is an equally important norm. Indeed, the First Amendment itself is

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394. See *supra* Part IV.C.4.

395. For sources discussing duration-based and magnification limits on government surveillance, see *supra* note 104.

arguably conflicted as greater recording leads to greater amounts of expression, but can chill freedoms of association and personal development that make for meaningful expression and deliberative participation. It will take years for courts and legislatures to fully sort out this increasingly important public space, and by then novel technologies might necessitate a new round of deliberation. But as a start, considering the interdependency between the First and Fourth Amendment principles discussed in this Article, Congress should explicitly permit airspace regulation for reasons of privacy as well as safety. That will allow the FAA, if it obtains the necessary expertise, to promulgate rules that seek to accommodate both the privacy costs and First Amendment benefits of drone technology.