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The Right to Map (and Avoid Being Mapped): Reconceiving First Amendment Protection for Information-Gathering in the Age of Geotagging and Google Earth

Marc J. Blitz, *Oklahoma City University*

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THE RIGHT TO MAP (AND AVOID BEING MAPPED):
RECONCEIVING FIRST AMENDMENT PROTECTION FOR
INFORMATION-GATHERING IN THE AGE OF GOOGLE EARTH[†]

Marc Jonathan Blitz^{*}

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^{*} Marc Blitz is a Professor of Law at the Oklahoma City University School of Law.

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INTRODUCTION

In an 1859 article for *The Atlantic Monthly*, Oliver Wendell Holmes Sr. marveled at the nineteenth century’s version of 3D technology – the stereoscope – and the way it could fully immerse a viewer in an environment thousands of miles away. “The stereoscopic views of the arches of Constantine and of Titus,” he observed, “give not only every letter of the old inscriptions, but render the grain of the stone itself.”¹ Just as impressive as the detail captured in stereographic photos was the new ability they gave individuals to quickly traverse the world from a single place: “I pass, in a moment,” said Holmes, “from the banks of the Charles to the ford of the Jordan, and leave my outward frame in the arm-chair at my table, while in spirit I am looking down upon Jerusalem from the Mount of Olives.”² A library of such immersive photos, he said, would allow a person to gaze intently at the details of “any object, natural or artificial,” as he would read a book at any common library.³

What Holmes did not foresee is that, a century and a half later, individuals can visit such a library of immersive images from a device that sits on their lap or fits into the palm of their hand. On Google Earth and Bing Maps, I can quickly traverse the globe – travelling from the Charles River to the Jordan and on to the Mount of Olives in less than a minute – and see panoramic views

1. Oliver Wendell Holmes, Sr., *The Stereoscope and the Stereograph*, *The Atlantic Monthly*, June 1859, at 745, available at <http://www.theatlantic.com/magazine/archive/1859/06/the-stereoscope-and-the-stereograph/303361/>. The publication has since changed its name to *The Atlantic*.

2. *Id.*

3. *Id.*

of each location along the way.⁴ The creators of these computer mapping programs, and others joining them, are constantly aiming to make such “virtual travel” more impressively realistic. Google’s “Street View” service uses “360-degree street-level imagery” to give users the sense that they are standing on the street themselves.⁵ Microsoft’s “true-to-life” Streetside images (in Bing Maps) make the user feel inside the scene.⁶ In recent months, creators of virtual maps have sought to enhance their view from the air. Google has recently begun offering new “3D aerial mapping” of numerous cities to “create the illusion that you’re just flying over the city, almost as if you were in your own personal helicopter.”⁷ Apple now gives the same power of virtual exploration to users of its iPhones and iPads utilizing iOS 6 – which now come with 3D maps that allow viewers to “soar over cityscapes” and see buildings and other landmarks from above in “high-resolution quality.”⁸ With the aid of these interactive maps and “virtual globes,” individuals can observe the details of streets, squares, and storefronts thousands of miles from where they stand – even in locations they have never visited, and may never visit at all.⁹

4. See, e.g., Deanna Hartley, *Tech Milestone or Privacy Infringement?*, Certification Magazine, <http://www.certmag.com/read.php?in=3854stone> (last updated 2009) (“I’ve just taken in panoramic views of the Golden Gate Bridge, the Sydney Harbor and the Colosseum – even though I’ve been curled up on my couch all morning . Ah, the power of technology. Google Street View, in particular.”).

5. *Street View*, Google Maps, http://maps.google.com/intl/en/help/maps/streetview/#utm_campaign=en&utm_medium=van&utm_source=en-van-na-us-gns-svn (last visited Nov. 13, 2012).

6. *Streetside: Dynamic Street-Level Imagery via Bing Maps*, Bing, <http://www.microsoft.com/maps/streetside.aspx> (last visited Nov. 13, 2012).

7. Alexei Oreskovic, *Google Beginning 3D Aerial Mapping: Smartphone Maps of Some Cities Offer Helicopterlike View*, The Columbus Dispatch, http://www.dispatch.com/content/stories/national_world/2012/06/07/google-beginning-3d-aerial-mapping.html (June 7, 2012).

8. Apple, iOS 6: Maps, <http://www.apple.com/ios/whats-new/#maps> (last visited Nov. 13, 2012).

9. The term “virtual globe” refers to an interactive globe that one can typically manipulate and magnify to explore various features of, and images or other representations of, particular locations or geographic elements on the Earth’s surface. *Overview of Google Earth*, Google Earth, <http://support.google.com/earth/bin/answer.py?hl=en&answer=176145&topic=2376010&ctx=topic> (last visited Nov. 13, 2012) (“Google Earth allows you to travel the world through a virtual globe and view satellite imagery, maps, terrain, 3D buildings, and much more. With Google Earth’s rich, geographical content, you are able to experience a more realistic view of the world.”); Michael Miller, *Using Google Maps and Google Earth*, 1, 5 (Sandra Schroeder ed., Pearson Education, Inc. 2011) (2010) (noting that “today . . . you can generate all the

The free access I have to such a wealth of geographic information is, in part, thanks to the First Amendment protections developed at the urging of Holmes's son, Justice Oliver Wendell Holmes, Jr. – protections which, as the Supreme Court interpreted them in *Reno v. American Civil Liberties Union*, preserve our access to the “vast library” of documents and images one finds on the World Wide Web.¹⁰ There is, however, one place where our ability to observe the world in this way is left vulnerable to government attack and restriction: at the point the original images are captured. While Google and other map-making companies have the right to disseminate the photographs they have in their possession, existing free speech law may not give them the right to take those pictures in the first place – and, indeed, citizens and legislators have often assumed that this mapping technology can be restricted in the name of privacy without any First Amendment concerns. Numerous lawyers and legal scholars have worried, in blogs and articles, about the ways in which the new mapping technologies might threaten privacy.¹¹ Individual homeowners have threatened or actually brought suits challenging Google Map's close-up Street View images on “invasion of privacy” and other grounds. One such couple, Aaron and Christina Boring, saw their invasion of privacy claims dismissed but won an admission from Google that one of its Street View cars had trespassed on their property (along with \$1 Google agreed to pay in damages).¹² Google has also been subject to government investigations in numerous countries for collecting data from individuals' computer systems as it created maps for its Street View programs.¹³

maps you want online” and that apart from basic mapping, Google Earth offers “lifelike three-dimensional views of any location on the planet”).

10. *Reno v. American Civil Liberties Union*, 521 U.S. 844, 853 (1997).

11. See, e.g., Andrew Lavoie, *The Online Zoom Lens: Why Internet Street-Level Mapping Technologies Demand Reconsideration of the Modern-Day Tort Notion of “Public Privacy,”* 43 Ga. L. Rev. 575, 577 (2009); Jamuna D. Kelley, *A Computer with a View: Progress, Privacy, and Google*, 74 Brook. L. Rev. 187, 187 (2008).

12. See *Boring v. Google*, 362 F. App'x 273, 281 (3d Cir. 2010); Joe Mandak, *Google Admits Trespassing in PA, Pays Couple \$1*, Huffington Post, http://www.huffingtonpost.com/2010/12/02/google-admits-trespassing_n_791148.html (Dec. 2, 2010).

13. Google has already been the subject of high-profile suits and legislative investigations in numerous countries for the interception of millions of Internet users' information from WiFi hotspots by Google Street View cars. However, these suits and this privacy threat – from interception of communications rather than images of the visual environment – are not the focus of this article. See *In*

Where existing privacy laws do not bar Google or others from taking or disseminating high-resolution photographs, legislators have suggested revising the laws to make it illegal for them to do so. A proposed Texas bill, for example, would have barred the internet publication of “an image capable of zooming into greater detail than that of an aerial photograph taken without a magnifying lens 300 feet or higher of private property not visible from the public right-of-way.”¹⁴ Other legislators have focused not only on protecting individual privacy, but also assuring the safety and security of institutions that have previously been the target of terrorism or other violent attacks. A proposed California Assembly bill would have barred any “virtual globe browser available to members of the public [such as Google Earth] from providing aerial or satellite photographs or imagery of places in this state that have been identified on the Internet Web site by the operator as a school, place of worship, or government or medical building or facility unless those photographs or images have been blurred.”¹⁵ The proposed bill also would have barred “that operator from providing street view photographs or imagery of those buildings and facilities.”¹⁶ Restrictions of this sort have already been imposed on Google in foreign jurisdictions. For example, laws in Germany already prevent Google from photographing and displaying on Google Earth the homes of those who object to such display.¹⁷ And while Google recently won the right to continue offering its Street View service in Switzerland – even without manually blurring out every face and license plate – the Swiss Federal Supreme Court did require that, going forward, Google’s cameras could “not peer over garden walls and hedges” and had to “completely blur out sensitive facilities like women’s shelters,

re Google Inc. Street View Electronic Communications Litigation, 794 F. Supp. 2d 1067, 1081 (N.D. Cal. 2011).

14. H.B. 2461, 81st Leg., Reg. Sess. (Tx. 2009), *available at* <http://www.legis.state.tx.us/tlodocs/81R/billtext/html/HB02461I.htm>.

15. A.B. 255, 2009 State Assemb. (Cal. 2009), *available at* http://www.leginfo.ca.gov/pub/09-10/bill/asm/ab_0251-0300/ab_255_bill_20090211_introduced.html.

16. *Id.*

17. See, e.g., Roger C. Geissler, *Private Eyes Watching You: Google Street View and the Right to an Inviolable Personality*, 63 Hastings L.J. 897, 898-99 (2012) (describing the intense resistance to the introduction of Google Street View in Europe and especially in Germany).

prisons, retirement homes and schools, and to advise communities in advance of scheduled tapings.”¹⁸

And with each new major technological improvement that Google, Apple, and other companies offer in image capture technology come new worries about privacy. Google’s camera-mounted tricycles have allowed it to capture an increasing number of images far from major roadways,¹⁹ and it has further extended its reach this year, with “Street Trekker backpack cameras [that] will allow the search giant to explore backyards, footpaths and even the wilderness.”²⁰ In recent months, commentators have warned that Google and Apple will soon be building maps with new fleets of “spy planes” capable of producing photographs “so visually-rich that they can display objects just four inches wide.”²¹

But if there are privacy and security interests that weigh in favor of restricting mapping technology (and I will argue later that *there are*), are there also First Amendment or other liberty interests that cut the other way? If so, what is the nature of these constitutional liberty interests to create or access dynamic computerized maps, and how do we balance those interests against the privacy and security interests that might justify some restrictions on what mapping software can reveal about us?

It is, after all, difficult to strike this legal balance in the proper way if we attend to only one side of it. The First Amendment side of this equation has so far received virtually no attention in court decisions and law review articles. Articles about Google Street View in the press sometimes assume that Google and other entities that map our cities, towns, and roadways have some constitutional protection to do so. Privacy and digital rights expert Kevin Bankston, for example, describes the privacy protection challenges

18. Kevin J. O’Brien and David Streitfeld, *Swiss Court Orders Modifications to Google Street View*, N.Y. Times, June 8, 2012, available at <http://www.nytimes.com/2012/06/09/technology/09iht-google09.html>.

19. Helen A.S. Popkin, *Google Trike is Ready for Your Close-Up*, NBCNews.com, http://www.msnbc.msn.com/id/34333523/ns/technology_and_science-tech_and_gadgets/t/google-trike-ready-your-close-up/#.UFUuX6Se7GI (Dec. 9, 2009).

20. Rob Waugh, *Now There is NO Escape: Google Takes Street View Offroad with Trekker Backpack Cameras Which Can Go Anywhere*, Mail Online, June 7, 2012, <http://www.dailymail.co.uk/sciencetech/article-2155899/Now-NO-escape-Google-takes-Street-View-offroad-Trekker-backpack-cameras-shoot-anywhere.html>.

21. Anuradha Shetty, *Spy Planes to Help Apple, Google Capture 3D Aerial Images*, Tech2, <http://tech2.in.com/news/science-and-technology/spy-planes-to-help-apple-google-capture-3d-aerial-images/315452> (June 11, 2012).

presented by Google Street View as that of striking a balance between people's "privacy interests" and "our First Amendment right to document public spaces around us."²² Bankston's description is perceptive and accurate, but it requires elaboration. The First Amendment's speech clause does not expressly give us "a right to document public spaces." Rather, it gives us a right to freedom of speech.²³ Such a freedom may include the right to speak about the things we have observed in public space (whether through words, pictures, or symbolic conduct), but does it also include a freedom to make such observations in the first place? I will argue that it does and that this freedom has implications for modern-day mapping and other technologies that allow us to explore the natural and built environment.

This claim may well seem at odds with existing First Amendment doctrine. Although the Supreme Court has expressly recognized since 1943 that the First Amendment right to free speech entails a corollary right to "receive information and ideas,"²⁴ this "right to receive" is not a right to receive information from *any* source one might find. It is a right to receive information from "a willing speaker,"²⁵ not an unqualified right to gather information from all events and experiences that the world has to offer. "[T]he right to speak and publish," the Court warned in *Zemel v. Rusk*, "does not carry with it the unrestrained right to gather information."²⁶ It does not, the Court held in that case, entail a right to receive government authorization to travel to Cuba or any other foreign location, even if there is information a person can obtain only by exploring those environments.²⁷ One might thus expect that the Court would reject a similar claim from a modern mapmaker, even if he planned to observe Cuba – or some other area to which the government has denied access – from cameras positioned in the sky rather than travel and observation on the ground.

I will argue in this Article, however, that this aspect of First Amendment doctrine deserves rethinking. If a person does not have a right to explore a particular location physically because of

22. Miguel Helft, *Google Zooms in Too Close for Some*, N.Y. Times, June 1, 2007, available at <http://www.nytimes.com/2007/06/01/technology/01private.html>.

23. U.S. Const. amend. I.

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

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

26. *Zemel v. Rusk*, 381 U.S. 1, 16-17 (1965).

27. *Id.*

the harms such physical contact with the environment might threaten, she should at least have the right to do so *virtually* – whether with an old-fashioned stereoscope or a modern computer-generated map – where her visual contact with the world avoids the disruption threatened by its physical, environment-altering equivalent. Even if the right to receive information does not give an individual the right to physical presence, in other words, it should give her a right to telepresence – that is, a right to view, and immerse herself, in a computer simulation of a faraway location depicted in a virtual map.

This virtually direct perception of faraway environments is less familiar to First Amendment law than are more traditional ways of learning about the world. However, this Article argues that this perception is just as deserving of First Amendment protection, even when the environment that an individual chooses to explore is one that has significance only to her or a limited number of people. And if a person is to have the right to immerse herself in a phantom copy of an exotic location of interest, mapmakers should have the right to make such immersion possible. Mapmakers, I will argue, in the absence of powerful countervailing government interests, should therefore be able to freely create records of the environment. Moreover, where individuals can safely, and without threatening harm to others, explore an environment firsthand, rather than through the extended and mediated perception provided by computer-generated maps, the First Amendment should also grant them the right to see the world for themselves.

Part I of this Article elaborates upon the challenges that arise in trying to extend First Amendment protection to these dynamic computer-generated maps. It analyzes the emerging and quickly-developing technologies of image capture, location tracking, and mapping, the First Amendment questions raised by such technologies, and the reasons why long-standing First Amendment protection for photography might be assumed not to apply to the large-scale, automated photography that mapping companies use to build virtual interactive landscapes.

Part II begins to grapple with this constitutional challenge in two ways. First, it considers certain ways in which courts and commentators have recently considered an expansion of the right to receive information to such scenarios as citizens recording police encounters, or, as more ambitiously proposed by legal scholars like Seth Kreimer, to image capture more generally. Second, it focuses in on two arguments that courts have embraced in justifying extending First Amendment protection to such recordings. The

first argument emphasizes the ways in which such recording is expression or constitutes an indispensable medium for, or condition of, expression. The second argument emphasizes how such recordings serve First Amendment purposes by informing citizens of crucial elements of public affairs. After noting issues with both, I consider how Barry McDonald's recent scholarship on information-gathering rights might solve such problems by weaving these models into a more theoretically developed – and modernized – conception of freedom of press rights.²⁸

Part III argues that McDonald's model lays a promising foundation for a right to explore and document public space but is incomplete. The theory fails to recognize that modern mapping is crucial not just for those who seek to understand public affairs, but for other more idiosyncratic needs that are no less important to the individuals who seek to fulfill them by exploring and understanding their surroundings. I thus set forth a more individualistic conception of the right to receive information and explain how we can adapt familiar constitutional doctrines to maintain such a right within conceptual limits.

The Article concludes by arguing that a proper understanding of such a right to observation leaves room for its counterpart: a right *not* to be mapped or observed – a right, in other words, to keep certain aspects of one's life hidden from view. Such a privacy right, in fact, is in many instances just as important for cultural and intellectual freedom as a right to observe since, as I and other scholars have noted elsewhere, there are certain kinds of intellectual inquiry that an individual may be unable to freely engage in when under the withering glare of a community that is hostile to such inquiry.²⁹ Such a privacy right, however, should be understood to primarily protect *individuals*, not the environment they live in and not the political entity that acts on their behalf. It may not always be easy to do the line-drawing that is necessary to honor both a right to perceive the environment and an equally important right to a private space. But as I argue in this Article, this is a challenge that is ultimately unavoidable for a free society and cannot be resolved by simply denying the importance of either the

28. 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 State L.J. 249 (2004).

29. See, e.g., Marc Jonathan Blitz, *Constitutional Safeguards for Silent Experiments in Living: Libraries, the Right to Read, and a First Amendment Theory for an Unaccompanied Right to Receive Information*, 74 UMKC L. Rev. 799 (2006); Neil M. Richards, *Intellectual Privacy*, 87 Tex. L. Rev. 387 (2008).

need for protected observation or that for privacy. Therefore, I provide some initial suggestions on how this balance might be struck in considering when individuals should be free to capture images and location information, and when mapping and software giants like Google, Apple, and Microsoft should be free to do the same.

I. DIGITAL MAPPING AND THE FIRST AMENDMENT

A. *Maps and Images as Protected Works of Art and Instruments of Politics*

There is little question that at least some maps, charts, photographs, and other records of the surrounding environment fall squarely within the realm of speech protected by the First Amendment.³⁰ Without maps, for example, Americans would be deprived of key elements of the “political speech [that is] at the core of what the First Amendment is designed to protect.”³¹ Maps, after all, have been used to teach the public about crucial episodes in America’s political history: its wars, its growth, the factors that distinguish states and regions from each other in population, economic condition, and health. School children thus study

30. See, e.g., *Bery v. City of New York*, 97 F.3d 689, 696 (2d Cir. 1996) (listing photographs, along with paintings, prints, and sculptures, as examples of visual expression that “always communicate some idea or concept to those who view it[,] and as such, are entitled to full First Amendment protection”); *Welton v. City of Los Angeles*, 556 P.2d 1119, 1122 (Cal. 1976) (finding that the First Amendment protects the sale of maps showing the “addresses and routes to movie star homes” and declaring “[t]he fact that some may view the map as lacking opinion, newsworthiness or information of social worth” to be “constitutionally irrelevant”). However, courts outside of the Second Circuit that are not bound by *Bery* have been critical of its conclusion that the sale of certain categories of merchandise is automatically entitled to First Amendment protection without regard to whether a specific item is sufficiently expressive.” *State v. Chepilko*, 965 A.2d 190, 201 (N.J. Super. Ct. App. Div. 2009). Moreover, some courts have treated photography of the environment as having a more questionable claim to First Amendment protection when it is intended to satisfy only an individual’s curiosity or lacks a particularized message. See, e.g., *Porat v. Lincoln Towers Cmty. Ass’n*, No. 04 Civ. 3199, 2005 WL 646093, at *4 (S.D.N.Y. Mar. 21, 2005) (stating that “although communicative photography is well-protected by the First Amendment,” this may not be true of photography intended only for the picture-taker’s “personal use”); *Carson v. Cnty. of Stanislaus*, No. 1:10-cv-02133-OWW-SMS, 2011 WL 1532533 (E.D. Cal. Apr. 20, 2011) (holding that plaintiff attorney’s photograph of an government officer connected to his case lacked First Amendment protection because the facts did not show that his photograph was communicative in nature).

31. *Virginia v. Black*, 538 U.S. 343, 365 (2003).

numerous maps in their history books, and citizens often find themselves watching color-coded maps on election nights and diagrammed maps as they follow news reports of overseas wars. Maps are often key instruments to debates and even court cases. For example, in *Hunt v. Cromartie*,³² the Supreme Court noted that its decision to strike down a districting plan as unconstitutional was based in large part on a map included in an appendix to the case. Even maps without a political message or lesson still communicate historical information that is clearly covered by First Amendment protection – whether they allow individuals to better understand patterns of bird migration,³³ explore sites on Route 66,³⁴ or visit old ghost towns.³⁵

The same is true of the interactive and photographically-detailed maps one finds in Google Earth. A visit to Google Earth’s “gallery” of special projects reveals works that mark locations of, and provide photographic evidence about, threats to the environment, sites of population transfer or segregation, and other events that are often at the core of political complaints voiced by citizens.³⁶ Other features on Google Earth provide a virtual tour of cultural sites such as Google’s “Ancient Rome” layer,³⁷ or its tour of Mayan ruins.³⁸

Maps also count as First Amendment speech not only because of their content, but their form as well. They are, in most cases, works of art and design, and thus a type of visual communication long covered by freedom of speech. As David Greenhood writes, “map-making is [] a kind of authorship. Maps, like stories, have a main theme, point of view, plot, and style.”³⁹ Indeed, as Tyler

32. *Hunt v. Cromartie*, 526 U.S. 541, 547-49 (1999).

33. See *North American Migration Flyways*, Nutty Birdwatcher, <http://www.birdnature.com/flyways.html> (last visited Nov. 12, 2012).

34. See *Turn by Turn Road Description*, Historic Route 66, <http://www.historic66.com/description/map.html> (last visited Nov. 12, 2012).

35. See *United States Ghost Towns*, Ghost Towns, <http://www.ghosttowns.com/ghosttownsusa.html> (last visited Nov. 12, 2012).

36. See *Earth Gallery: Featured Maps*, Google Maps, <http://www.google.com/gadgets/directory?synd=earth&hl=en> (last visited Nov. 12, 2012).

37. See Elisabetta Povoledo, *Exploring Old Rome Without Air (or Time) Travel*, N.Y. Times, Nov. 13, 2008, at C11, available at <http://www.nytimes.com/2008/11/13/arts/design/13anci.html>.

38. See *Google Earth 3D Map of Mayan Ruins*, Mexico Today, <http://mexicotoday.org/video/google-earth-3d-map-maya-ruins> (Feb. 13, 2012).

39. David Greenhood, *Mapping 175* (University of Chicago Press 1964) (1944).

Mitchell writes, maps might not only be art but “beautiful” art.⁴⁰ While computerized maps can be more utilitarian – often marking space on a mechanically-generated grid or against the background of photographs rather than artistic illustration – such graphical design and animation has just as great a claim as First Amendment “speech” as do other forms of artistic expression.⁴¹

The same is true of photographic images and other visual displays that let us view and feel as though we are in a distant locale. Consider, for example, Henri Cartier Bresson’s “street photography,” which captured striking scenes from urban settings across the globe such as India, Western Europe, and Latin America.⁴² Some of Bresson’s photographs documented important political events like the Spanish Civil War, World War II battles, the funeral of Mahatma Gandhi, and the rise of Communism in China.⁴³ But others simply provided a window into more mundane aspects of city life, and gave viewers a chance to better immerse themselves in the sights and movements of unfamiliar cities. The publication of such photographs in *Life* magazine (for which Bresson worked) is, of course, protected by free speech law. So too, in all likelihood, is Bresson’s artistic practice of capturing a photograph. If painters are engaging in protected expression when they artistically depict a scene on a canvas, why not a photographer who artistically captures it on camera?

But it is not clear that computer-generated mapping can fit securely under the same First Amendment covering that shields artistic map-making and photography, or that even the more traditional and artistic methods of capturing the world would have a First Amendment claim against government laws that barred capturing images or geographic information from a certain vantage point. It is thus necessary to take a closer look at virtual globes and modern geotagging, as well as the constitutional questions they raise.

Modern virtual globes like those provided by Bing Maps and Google Earth differ from the ornate maps of previous centuries in striking ways. First, they provide a level of detail and immersion that goes far beyond that provided by a traditional chart or

40. Tyler Mitchell, *Web Mapping Illustrated* 12 (Simon St. Laurent ed., 2005).

41. See *Brown v. Entertainment Merchants Association*, 131 S.Ct. 2729, 2737 n.4 (2011).

42. Pierre Assouline, *Henri Cartier Bresson: A Biography* 112, 117, 164-65 (David Wilson trans., Thames and Hudson Ltd. 2005) (1999).

43. *Id.* at 53.

photograph. They not only show us a *representation* of the world, but also help us steep ourselves in something that often feels like a convincing simulation of the real environment.⁴⁴ They let us transform the abstract colored representations of streets, parks, and houses into a detailed satellite photo.⁴⁵ A user of Google Maps, for example, need only click “satellite” on Google’s Web based mapping program, and the gray and yellow street map of New York City rapidly morphs into a photograph of buildings, trees, and traffic covered roads, which one can “zoom” into to reveal a close up look at the businesses, residences, or buildings of a particular block.⁴⁶ Select “Street View” from this interface, and you can see a photographic display of each neighborhood not from the vantage point of an overhead satellite, but rather from that of a pedestrian standing inside the scene.⁴⁷ A user can feel as though he is moving down a street in New York, Chicago, or Los Angeles and even zoom in on a particular person or shop window there. Under Street View, in fact, a Web user is not limited to a single point of view, but can rather shift the point of view as though as he is spinning in place with a 360-degree view of the environment.⁴⁸

44. See Tom Simonite, *Street View Steps Inside*, MIT Tech. Review, <http://www.technologyreview.com/news/423948/street-view-steps-inside/> (May 9, 2011) (observing that “Google’s Street View service has provided interactive panoramic photos that make it possible to virtually stroll down streets all over the globe”).

45. See Leslie Walker, *Google Service Homes in on Street Where You Live*, Washington Post, Apr. 10, 2005, at F07, available at <http://www.washingtonpost.com/wp-dyn/articles/A39148-2005Apr9.html> (describing Google’s introduction of “peeping satellite service” offering “rooftop photographic views of the United States” in 2005 and noting that in some areas, “Google Maps’ sharp aerial images, taken by satellite, provide street-level views of many homes, businesses and landmarks”). See also *About Different Views*, Google Maps, <http://support.google.com/maps/bin/answer.py?hl=en&answer=144341> (last visited Nov. 12, 2012) (explaining the difference between “map” and “satellite” views).

46. *About Google Maps*, Google Maps, <http://maps.google.com/support/bin/answer.py?hl=en&answer=7060> (last visited Nov. 12, 2012) (noting that the user can “[v]iew a satellite image (or a satellite image with superimposed map data) of your desired location that you can zoom and pan”).

47. See *About Street View*, Google Maps, <http://maps.google.com/support/bin/answer.py?hl=en&answer=68381> (last visited Nov. 12, 2012) (noting that “[i]n certain locations, you can view and navigate in Google Maps within street-level imagery”).

48. Simonite, *supra* note 45 (describing Google’s method of capturing panoramas as a “device containing multiple cameras that collects many partially overlapping photographs that are later stitched together into a spherical panorama of everything visible from the point at which they were taken”).

Indeed, one of the most visually impressive technologies for access to these close-up photo images from across the world comes from software providing not only a “computerized map,” but a “virtual globe” like Google Earth⁴⁹ or NASA’s World Wind.⁵⁰ These allow users to fly-over, zoom in, and zip between buildings or mountains, and, in some locations, enter Google’s “Street View” or Bing Maps’ “Streetside” mode to achieve the sense of being “inside” the photographed environment.

These emerging maps are not only very dynamic and detailed; they are also increasingly information-intensive and interactive. They are information-intensive because they allow users not only to visualize and locate themselves in an environment, but also to use their geographic space as a portal for learning many other things about an environment not normally visible on its surface. For instance, new “augmented reality” applications for iPhones, Blackberries, and other smartphones superimpose words or icons on images of the surrounding terrain, symbols that might tell the phone’s user what banks, coffee shops, and restaurants lie six miles ahead (beyond what she can see), and perhaps what reviewers or commentators have said about them. Smartphones, laptops, and netbooks (and now our iPads and tablets) have thus become high-tech hybrids of GPS navigation systems, yellow pages, and restaurant and business review guides. They can also fold encyclopedias and historical information into this mix by quickly linking a smartphone user to all Web-based Wikipedia articles about any place in a surrounding 5, 10, or 20-mile radius, or other databases with articles or descriptions of the local architecture, points of historical interest, or shopping venues. To be sure, paper maps have for centuries included “attribute” information about the places they depict, such as the populations and populations densities of a region or the amount of yearly rain or snowfall.⁵¹ Similarly, computerized Geographic Information System (GIS) technology allows mapmakers to add, and map-users to select, layers of additional information to geographic charts.⁵² But computer chips allow maps to include exponential amounts of such information, and GPS-location allows a user to call up only that attribute data most relevant to his current location. This ability of a computer- or smartphone-based map to recognize and

49. See Miller, *supra* note 10.

50. See *World Wind: Features*, NASA, <http://worldwind.arc.nasa.gov/features.html> (last updated Sept. 13, 2004).

51. See Roger F. Tomlinson, *Thinking about GIS* 101-07 (3d ed. 2007).

52. *Id.*

respond to a user's location makes the technology interactive, as do other technological capacities that allow users to not only obtain information from these maps, but also *add* their own information to them.

To date, it is primarily government entities and large corporations like Google, Apple, and Microsoft that have created virtual globes and large-scale maps. But many records of the world and our place in it can be created by individuals wielding a camera- and GPS-equipped cellphone, who can then, with the aid of available software or data-storage services, combine their information with that gathered by others into huge archives of searchable images, location records, and other information. Indeed, many apps available for iPhones or Android phones help individuals to do precisely this.⁵³

All of these technologies can be understood not simply as an artistic representation of selected settings but as an extension of our perception. In the past, we were unable to visually or aurally perceive an object or an event if the light and sound it emitted passed us by, or was too far away to reach us. Today, we can record light and sound in photographs, sound-recordings, and videos that combine visual and aural records, and thus perceive an event that has occurred far away and long ago. We can also scan the fixed image or replay a sound record or video multiple times, and in doing so, consciously perceive many more of the details in a set of stimuli than if such perception is only a one-time occurrence with only one chance to select and focus on a particular event or image in our field of view. As was perhaps most powerfully illustrated by the Julio Cortázar short story "Blow Up"⁵⁴ and the movies based upon it, by enhancing and scanning, a photograph or sound recording, we can observe minute details we would likely never have noticed through direct perception of our environment: a faint image of small splashes of blood on the grass may provide clues of a crime and a tape recording with its foreground noise stripped might allow a listener to hear a distant voice in the background.⁵⁵

53. See Jennifer Van Grove, *Instagram by the Numbers: 5 Million Users & 100 Million Photos*, Mashable, <http://mashable.com/2011/06/14/instagram-5-million/> (June 14, 2011) (describing Instagram as "the poster child" of a "mobile photo sharing craze").

54. Julio Cortázar, *Blow Up and Other Stories* 114-31 (Paul Blackburn trans., Pantheon Books 1967) (1963).

55. *Id.* See also *Plot Summary for Blow Out*, IMDB, <http://www.imdb.com/title/tt0082085/plotsummary> (last visited Nov. 12, 2012) (describing a horror movie sound processing expert who, having unintentionally

Such enhanced perception has allowed observers to make discoveries about the world on Google Earth that they would find difficult or impossible to make with the unaided eye. By using Google Earth's virtual globe technology to observe not only distant territories in close detail, but also from a bird's eye view that is unavailable to most private individuals, scientists have discovered a two-thousand year old Roman villa, a massive rainforest in South America, and a site hiding a human fossil approximately two million years old.⁵⁶

B. Why Computer-Generated Maps Raise First Amendment Problems

Why then is the First Amendment status of such modern mapping and image capture techniques questioned? While maps themselves often count as expression, the *process* of creating, updating, disseminating, and even using maps has some crucial components that are arguably non-expressive and thus non-speech. More importantly, maps require obtaining, using, and transferring data. This data is often not the kind that courts typically count as speech. Rather, it consists of an incredible set of continuously and mechanically captured photographs, location coordinates, and other information taken from the physical environment rather than from the "willing speaker" that traditionally provided the basis for a right to receive information.⁵⁷ Some of this data is captured by fleets of cars or other vehicles that Google and other entities dispatch to capture photographs of the environment that can be added to those already acquired from government or privately-operated satellites. Some of the data is captured by thousands or millions of miniature cameras on cellphones or other items that accompany individuals in their day-to-day travels (like car windshields and bicycle handle bars, helmets and hats, and glasses).⁵⁸

recorded the sound of a car accident on film, is able to dissect and augment pieces of this recording, uncovering evidence that the accident, and the deaths it caused, were planned).

56. See Scott Santens, *6 Mind-Blowing Discoveries Made Using Google Earth*, Cracked, http://www.cracked.com/article_19299_6-mind-blowing-discoveries-made-using-google-earth_p2.html (July 14, 2011).

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

58. See, e.g., Brad Wong, *Google Maps Street View Camera Car Spotted on Sammamish Street - Working, of Course*, Patch, <http://sammamish.patch.com/articles/google-maps-street-view-camera-mobile-spotted-on-sammamish-street-working-of-course#photo-7656334> (Sept. 7, 2011) (describing how motorized rotating cameras mounted on top of Google cars

To be sure, certain photography has long been among the activities that courts routinely count as “artistic expression” protected by the First Amendment. In 1959, in *Joseph Burstyn v. Wilson*, the Supreme Court found that motion pictures were protected expression under the First Amendment.⁵⁹ Not only moving pictures, but still photographs also qualified for such protection. As the Court stated in 1973, in striking down an arrest for dissemination of photographs, “[p]ictures [and] films . . . have First Amendment protection until they collide with the long-settled position of this Court that obscenity is not protected by the Constitution.”⁶⁰

But legal precedent on photography may not mean that every use of cameras or other technology to capture and create records of light and sound should thus count as protected expression. Indeed, emerging technologies for capturing and mapping out terrain are strikingly different – perhaps in constitutionally-significant ways – from the image capture and map-making techniques of the mid-to-late twentieth century. Consider the following features that are true of the processes used to stitch together Google Earth and other dynamic maps, and perhaps, to a lesser extent, the photo records that individuals gather with their cellphones and other personally-owned mini-cameras.

1. Scale: The Focus on Reproducing, Rather Than Representing, the Environment

The first distinguishing feature of image capture and other data-gathering technologies used by mapmakers and other contemporary aggregators of images is their enormous scale. Photographers and videographers of the past could shoot and build image libraries of only the spaces they inhabited. Indeed, they could join with others to build a more comprehensive visual library of images, covering stretches of time and space that go beyond any one person’s experience. But before the emergence of the World Wide Web and the widespread adoption of Internet communications outside of government and academia, such

capture images automatically); *GeoEye & Google*, GeoEye, <http://www.geoeye.com/GeoEye101/GeoEye-Google/Default.aspx> (last visited Nov. 13, 2012) (noting that the GeoEye-1 satellite is responsible for many images on Google Earth and Google Maps).

59. *Joseph Burstyn v. Wilson, Inc.*, 343 U.S. 495, 502 (1952) (“expression by means of motion pictures is included within the free speech and free press guaranty of the First and Fourteenth Amendments”).

60. *Kaplan v. California*, 413 U.S. 115, 119-20 (1973).

aggregation was a laborious task. Modern software companies, by contrast, can aggregate and stitch together numerous images into a mosaic of a vast environment, a service offered by Microsoft's Photosynth.⁶¹ Computer-generated maps, drawing on incredibly large batches of images and other data from satellites, airplanes, and trucks, electronically recreate not merely a large public space, but the entire earth and overlay it with multiple "layers" of information the user may select to learn about present or historical facts related to each mapped location.⁶²

To be sure, some of these vast data stores are received from precisely the kind of "willing speaker" that the Supreme Court has identified as the trigger for our right to receive information.⁶³ Much of the data used by creators of Internet mapping tools is obtained not directly from the earth, but from older maps or data files created and disseminated by another entity, such as a commercial satellite company or a government agency.⁶⁴ But many of the most detailed images, like those in Google's Street View program, are gathered by mapping companies themselves. Google, for example, owns and uses fleets of planes, cars, tricycles (and snow-mobiles).

This enlarged scale of image capture arguably makes a significant First Amendment difference for two reasons. First, image capture that continuously captures large portions of the environment from numerous satellites, planes, and cars presents far more of a potential threat to privacy than image capture one individual snap shot at a time. Just as some kinds of speech – such as true threats, or misleading commercial statements – have been denied First Amendment protection based on the ground that they cause more harm than other types of speech,⁶⁵ so one might argue that large-scale image capture threatens to destroy, or substantially

61. See *About Photosynth: What is Photosynth?*, Microsoft Photosynth, <http://photosynth.net/about.aspx> (last visited Nov. 12, 2012).

62. See Miller, *supra* note 10, at 129 ("Each layer in Google Earth adds a level of detail to the underlying map. The map itself is nothing more than the satellite or aerial photo; every piece of information on the map, every road and label and location marked, is part of a layer that is overlaid on top of that basic map.").

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

64. See, e.g., *TerraMetrics and Google Earth*, TerraMetrics, http://www.trueearth.com/support/faqs_content_google.htm (last updated Apr. 2, 2012).

65. See, e.g., *Central Hudson Gas & Elec. v. Public Svc. Com'n*, 447 U.S. 557, 563 (1980) (commercial speech receives lower protection than does political speech); *Virginia v. Black*, 538 U.S. 343, 359 (2003) (allowing government to restrict true threats).

erode, individuals' sense of privacy and security. Therefore, the argument might go, this large-scale image capture should be denied First Amendment protection even if its smaller-scale analogy receives such protection, in part because the privacy threat the latter poses is insignificant when compared to the benefits in allowing individuals to document important events in their lives or engage in creative artistic expression.

There is also a second reason why the comprehensive nature of Google Earth's image capture – and perhaps also the image capture entailed by other modern computer technologies – arguably makes it less deserving of constitutional protection than the photography of the past. Photography that is aimed at reproducing an *entire* environment, one might claim, is quite different than photography which selects sights within a particular environment in order to tell a specific visual story from a specific photographer's perspective. When a professional photographer captures a shot with a careful eye to such qualities as the placement of objects within a frame, the arrangement of light and shadow in it and in relation to the objects, and the interplay of color and shape, she is making conscious and careful decisions about what the photograph will look like and about the way a viewer might later understand it and react to it. Ansel Adams, for example, speaks about visualizing what an image in nature will look like before he takes the picture.⁶⁶ The same is true when directors and cinematographers use their craft to produce a movie, whether it is a drama or a documentary.⁶⁷ Photographers and filmmakers thus make choices akin to those made by painters, sculptors, and animators about the final form their work will take and how a viewer will experience it. Even tourists with little training in photography are often at least making some judgment about how the picture will look by attempting, for example, to place friends or family members within a frame or to capture certain features of the environment (such as Cinderella's Palace in

66. See Milton Esterow, *Ansel Adams: The Last Interview*, Art News (1984), *available at* <http://www.maryellenmark.com/text/magazines/art%20news/905N-000-001.html> (“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.”).

67. See, e.g., *Peter Bogdanovich Interviews Alfred Hitchcock, 1963*, The Director's Chair Interviews, http://www.industrycentral.net/director_interviews/AH03.HTM (last visited Nov. 13, 2012) (describing use of “the power of cutting and the assembly of . . . images”).

Disney World, or the view of Manhattan Island that one has at the top of the Empire State Building).

By contrast, photography and video capture used to construct modern maps are arguably lacking in such artistic judgment. Whereas someone looking at a photograph by Edward Weston or Ansel Adams, for example, will see the world as Weston or Adams chose to portray it, Google Earth and other virtual globes are, one might argue, meant to eliminate the sense that there is any intermediary. Their users are presented with a three-dimensional landscape that is meant to give them the illusion of *direct* contact with the environment, not the sense that they are looking at the world through the eyes of a particular photographer, movie maker, or visual storyteller.⁶⁸ They are, in other words, intended to create “telepresence” – a technological-simulation of actually being in a far-away place⁶⁹ – rather than a picture or story which, however fully it may absorb an audience, is also something that audiences can stand outside of and understand as the artistic expression of someone other than themselves.

It is not only map-making that is marked by such differences from traditional photography, but also the efforts of many cellphone users who record their surroundings. An individual with a cellphone camera, or even with a larger array of cameras, cannot capture nearly as much of the earth’s landscape as can Google or Microsoft. But if she uses Panoramio, Flickr, or YouTube to aggregate her cellphone camera footage with those of others to construct a searchable photo archive, then the collective archive-building they engage in with other anonymous Web users across the earth may, like Google Earth or Bing Maps, provide computer users with a window onto large stretches of territory, over long periods of time. While such a virtual window may well be of tremendous value to those who wish to look upon distant lands they do not have time or resources to visit, the collective activity that creates such a window is arguably no more “expressive” for First Amendment purposes than would be the installation of hidden microphones throughout streets, parks and outdoor cafes in public places. Such wire-tapping-like activity could well allow

68. See, e.g., Miller, *supra* note 10 (describing Google Earth as making available “lifelike three-dimensional views of any location on the planet”).

69. *Telepresence: Hearing Before the Subcomm. on Science, Technology and Space*, 105th Cong. 14 (1998) (statement of S. Kicha Ganapathy, Member, Technical Staff, Multimedia Communications Research Laboratory, Bell Laboratories) (“Telepresence provides an ability to create the perception of being at a place without really being there.”).

people to listen in, and learn about human conversations through the nation and world – especially if the captured sounds are transferred to mp3s and compiled in a searchable computer database. But this does not mean that the people who record such sounds with unattended microphones are engaged in expression.⁷⁰ Nor, one might argue, are those who instead of capturing sound with unattended microphones and recording equipment, capture light with unattended video recorders.

There are, as legal scholar Seth Kreimer observes, some arguments that “ambient image capture” deserves First Amendment protection despite its differences from “premeditated image capture,” on the grounds that it too is likely to capture “publicly-salient images.”⁷¹ This Article reviews these arguments and ultimately proposes that they have force – especially when elaborated on in certain ways. For now, I simply want to note that the scale of the image capture used to build virtual globes and other virtual simulations of our environment may make a difference. It at least raises a serious question about whether the First Amendment protection that the Supreme Court has previously extended to photography and filmmaking should cover this new form of image capture.

2. Automation

70. Indeed, where such activity is intentionally aimed at recording conversations, it is likely illegal under federal law, which subjects to fine, imprisonment, or lawsuit any person who “intentionally intercepts, endeavors to intercept, or procures any other person to intercept or endeavor to intercept” any “oral” communication. 18 U.S.C. § 2511(1) (2006). Even in the absence of such legal provisions, it would be difficult for a litigant to convince a court that a sound recording inherently counts as First Amendment expression since the recording by itself is unlikely to contain the “particularized message” of the kind required by the Supreme Court in *Spence v. Washington* for a particular action to count as speech (at least where it is not part of an activity already widely-defined by tradition as “expression”). See 418 U.S. 405 (1974). It is for this reason that the Seventh Circuit, when extending First Amendment protection to the audio component of a citizen’s recording of a police encounter, stressed that this type of audio recording was an essential condition of a future act of disseminating information about one’s government. See *American Civil Liberties Union v. Alvarez*, 679 F.3d 583 (7th Cir. 2012); see also *infra* text accompanying notes 108-10. Had the Court deemed the audio recording by itself to constitute protected expression under the First Amendment, such an argument linking it to other expressive activity would have been unnecessary.

71. Seth F. Kreimer, *Pervasive Image Capture and the First Amendment: Memory, Discourse, and the Right to Record*, 159 U. Pa. L. Rev. 335, 344 (2011).

There is another sense in which the cameras used to construct Google Earth are different from those of more traditional photographers and filmmakers: they are created largely by machines rather than people. The satellite, aerial, and vehicle-captured photos that provide much of the detail in computer-generated globes and maps originate from cameras that work for hours or days at a time. These cameras are designed to capture a massive sweep of territory underneath, without any camera-operator choosing exactly, on a moment-to-moment basis, what this sweeping footage will look like or what it will convey.⁷² Compared to the image or film captured by someone with her eye behind the camera, such data capture is harder to characterize as communicating or conveying the perspective or experience of a particular individual. It is primarily the perspective of a data-gathering machine, not a decision-making individual. While the end product may be photographic images, the process is more like the one that occurs when a thermometer or barometric pressure reader linked to a computer captures temperature or air pressure measurements from a certain area. To be sure, the decisions of an instrument designer and other personnel may affect the specific data that is recorded, but that is also true of the person who sets up a thermometer or barometer and links it to a recording device. The human role involved in setting up a machine does not transform a collection of temperature or humidity recordings into First Amendment expression.⁷³ So it is not clear that we should count such data capture as First Amendment expression when an automated camera captures information in the form of light rather than pressure or temperature readings. Human judgment does, at some point, play a significant role in the process. As one article on Google Street View notes, “[t]he sheer amount of human effort that goes into Google's maps is [] mind-boggling,” with Google employees “hand massag[ing]” roads, for example, to bring their

72. See, e.g., Brad Wong, *Google Maps Street View Camera Car Spotted on Sammamish Street - Working, of Course, Patch*, <http://sammamish.patch.com/articles/google-maps-street-view-camera-mobile-spotted-on-sammamish-street-working-of-course#photo-7656334> (Sept. 7, 2011) (describing how motorized rotating cameras mounted on top of Google cars capture images automatically).

73. In *Spence v. Washington*, the Supreme Court held that to be eligible for First Amendment protection, symbolic conduct must possess “an intent to convey a particularized message” and those who view it must be likely to understand the message. 418 U.S. 405, 411 (1974).

virtual model into line with details left out of the pictures.⁷⁴ But such human judgment and editing tweaks a composite of thousands of images previously obtained by largely automated processes.

The same may be true, albeit in more limited circumstances, of individuals' use of cellphones to engage in continuous image capture. The ubiquitous presence of mini-cameras in cellphones, as well as the proliferation of small affordable digital still and video cameras, has probably made photography a far more spontaneous practice than it used to be. Individuals now typically turn on their phone cameras to start shooting an event just as it has started to unfold before their eyes. Because massive digital memory cards allow for multiple attempts and editing software allows for extensive post-capture modification, individuals need not take every picture exactly as desired on every try. Even though each photograph or video is still the product of individual choices about where to point the camera and when to start it, one might still argue that continuous cellphone image capture involves far more automatic and machine-guided image capture than the older practice of snapping individual photos where one consciously selects what goes into a frame.

While cellphone cameras can be, and *are*, used for such traditional photography (often with the help of "apps" designed for this purpose), they and other mini-cameras can also be used simply to capture as much light and sound in front of the camera as possible through a particular stretch of time and place, perhaps for reconstructing and virtually simulating a path journeyed by an individual. Anita Allen has written about this pursuit of "lifelogging," which involves the use of visual and audio recording devices to "record and store everyday conversations, actions, and experiences," thereby "enabling future replay and aiding remembrance"⁷⁵ Imagine, for example, someone who mounts a miniature video camera on the front of her car, or switches on a mini-camera that points out of her glasses-frame, or a pen or cellphone that is sitting in a coat pocket.⁷⁶ It is unlikely that she will

74. Alexis C. Madrigal, *How Google Builds its Maps – and What it Means for the Future of Everything*, The Atlantic, Sept. 6, 2012, available at <http://www.theatlantic.com/technology/archive/2012/09/how-google-builds-its-maps-and-what-it-means-for-the-future-of-everything/261913/>.

75. Anita L. Allen, *Dredging Up the Past: Lifelogging, Memory and Surveillance*, 75 U. Chi. L. Rev. 47, 49 (2008) (explaining how certain companies have developed lifelogging technologies for users).

76. See, e.g., Michael Fitzer, *Using a Car Camera Mount, Videomaker*, Videomaker, <http://www.videomaker.com/article/13050> (Apr. 2007).

try to place specific individuals within a frame against a specific background with an exact arrangement of color, shape, and shadow in order to construct a particular visual or emotional experience for an audience. She will simply be using the camera to capture and preserve light in front of, or around them, in much the same way as the cameras mounted on Google's cars automatically record light coming from the places at which they are pointed.

As the Supreme Court declared in 1994, while it may sometimes be difficult to find a discrete message in such forms of expression as modern classical music or abstract painting,⁷⁷ one can at least characterize such art as the creation of a specific individual who uses it to express her emotion and experience.⁷⁸ This is not true of a series of recordings made by a machine that has no such emotion or experience. As the biologists Gerard Edelman and Giulio Tononi write in trying to explain the importance – and mystery – of understanding sentience, there is a tremendous difference between a “simple physical device, such as a photodiode, that can differentiate between light and dark” and “a conscious human being performing the same task.”⁷⁹ There is arguably also a crucial First Amendment difference: the light pattern that is not only perceived by a human being, but specifically captured in order to convey his perception and accompanying experiences to others, counts as expression. The light pattern that is captured by a machine with no such human goal or associated human emotion does not.

3. Remote Sensing of Non-Visible Radiation

Machines are not only capable of automating processes that otherwise require substantial human choice, but are also capable of “seeing” light that is invisible to human eyes such as electromagnetic radiation with wavelengths outside the range human beings can detect. They might also create a “picture” of an environment by using “sonar” to gather data from the environment with sound waves (as bats and dolphins do in navigating their surroundings). Such capacities give creators of maps and GIS software a wealth of topographical data they might not have from

77. See *Hurley v. Irish-Am. Gay, Lesbian, Bisexual Group of Boston*, 515 U.S. 557, 570 (1995).

78. See Wassily Kandinsky, *Concerning the Spiritual in Art* (M.T.H. Sadler trans., 1977) (The abstract painter Wassily Kandinsky, for example, believed that his color shapes expressed, and could be used to evoke, emotion).

79. Gerard Edelman & Giulio Tononi, *A Universe of Consciousness: How Matter Becomes Imagination* 17 (2001).

the photographs alone.⁸⁰ Google's undersea images, a part of the Google's mapping offering called "Google Oceans," are, for example, based not on images, but on data of ocean topography obtained with sonar and non-visible electromagnetic radiation.⁸¹ Thermal imaging, which uses infrared radiation outside the visible spectrum, also plays a crucial role in capturing topographical data from satellites. Similarly, the GPS technology that allows a smartphone user to tell where he is relies not on visible light, but on location data that travels back and forth between satellites and ground-based devices in electromagnetic radiation outside the visible spectrum.

While giving cartographic data-gatherers and map-users more power, such technologies also make the information capture more unlike the First Amendment expression that individual photographers engage in when they express themselves with pictures. Detection of invisible radiation and heat is arguably more akin to the intuitively non-expressive measurements of heat by thermometers than the expressive capture of light by photographers. While telling stories with photographically captured light has become, as Kreimer and other scholars observe, a familiar mode of expressing oneself, this may not be true of practices that involve capturing infrared images or sonar readings. Nor is it true of GPS navigation devices. Few people would say that a satellite is expressing itself (or the views of any person) when it automatically receives and sends to countless GPS-enabled devices to let them rapidly calculate the device's location or distance from other sites.

The same arguments may apply to individuals whose instruments record invisible radiation or inaudible sound. If such means of capturing information from the environment do not count as First Amendment expression when they are done by cameras mounted on planes and satellites, it is not clear it should

80. See, e.g., Claire Calcagno, *The Edgerton Digital Collections Project: Fathoming the Oceans*, Massachusetts Institute of Technology, <http://edgerton-digital-collections.org/stories/features/fathoming-the-oceans-3-under-water-sonar-acoustics> (last visited Nov. 20, 2012) (describing how Harold Edgerton developed photography methods to capture records of ocean life and how he took advantage of acoustic instruments to "see" through water by using their sound waves to make measurements).

81. See *Google: 'Atlantis' Image was Sonar Data*, United Press International, http://www.upi.com/Science_News/2009/02/20/Google-Atlantis-image-was-sonar-data/UPI-27691235142455/ (Feb. 20, 2009). See also *Ocean*, Google Earth, <http://www.google.com/earth/explore/showcase/ocean.html#> (last visited Nov. 13, 2012).

make a constitutional difference when night-vision cameras or infrared imagers are held by a person rather than mounted on a vehicle. The same is true of the location-detection technology frequently found in smartphones. Just as individual users cannot easily photograph or map the environment on the same scale as Google, Microsoft or a government agency, and just as they do not have the resources to capture as much footage with unaided machines as those organizations, they also do not have access to the same technology for recording radiation information outside the visible spectrum or the range of sounds audible to the human ear. While police departments and large companies often have thermal-imaging technology to “see” objects in darkness with the help of heat sensors,⁸² individuals generally do not purchase or make use of such infrared technology. Still, that may change as night vision technologies become cheaper. There are already affordable point-and-shoot cameras that can reveal night scenes with far more detail than the unaided eye sees.⁸³ Zoom technologies, of course, already allow individuals to increase the detail they can see in the visible light they capture, and parabolic microphones and other sound recording technology allow individuals to do the same for sound.⁸⁴

There is another reason courts might deny First Amendment protection to light and sound capture that takes place outside the range of what we can see and hear. Just as image capture on a massive scale may cause harms to privacy that courts will be reluctant to dignify with First Amendment protection, the same is true of technology that, by creating pictures from invisible radiation, allows us to peek around barriers that formerly gave individuals refuge from constant observation. Whereas a married couple wishing to chat about a private family matter could once rely on their apparent solitude to do so even in a public park or street, or rely on darkness or distance from others to keep them out of a private video or photograph, their privacy is in far greater

82. See Dave Douglas, *Night Vision and Thermal Imaging*, Police Technology, <http://www.policemag.com/Channel/Technology/Articles/2012/03/Owning-the-Night.aspx> (Mar. 27, 2012).

83. See Dave Johnson, *Taking Good Portraits at Night*, PC World, http://www.pcworld.com/article/231197/taking_good_portraits_at_night.html. (Aug. 1, 2011).

84. See *Berger v. New York*, 388 U.S. 41, 47 (1967) (where the court recognized that “eavesdropping has become a big business,” including the development of parabolic microphones, with “resulting invasion of individual privacy”).

danger in a world where others can easily capture photos (and record conversations) across distances or at night.⁸⁵ Likewise, the fact that individuals can now be more easily tracked – and frequently *are* tracked whenever they carry an iPhone or Android Phone – puts their privacy at far greater risk than before.⁸⁶ Courts may be highly reluctant to recognize First Amendment rights to information capture that make it impossible to legislatively or judicially protect individuals against being tracked or otherwise spied upon by government or private observers.

In short, we cannot simply assume that because courts have extended First Amendment protection to the old-fashioned photography and film-making of the mid-to-late twentieth century, they would similarly place modern and more powerful and pervasive forms of image capture and data-gathering in the same constitutional categories. The First Amendment shielding that protects a creative individual as she consciously constructs a picture or film from certain elements of her surroundings may not extend to the far more extensive recording of light done automatically by a plane-, truck-, or car-mounted camera. Whereas an individual may have a First Amendment right to preserve and frame a photograph captured for others, that does not mean there is a similar First Amendment right when the light capture consists not of what she sees and experiences, but light wavelengths that only a machine can detect. The images collected and gathered together in Google Earth, and other dynamic mapping systems, thus have a more questionable First Amendment status than photographs taken by individuals. So too do massive photographic databases created from images captured by cellphones that capture footage on autopilot.

85. See *Dow Chemical Co. v. United States*, 476 U.S. 227, 238 (1986) (examining whether there was unreasonable search when government used a high-magnification camera that could, from a plane flying above, identify “objects such as wires as small as 1/2-inch in diameter”).

86. See U.S. Gov’t Accountability Office, GAO-12-903, *Mobile Device Location Data: Additional Federal Actions Could Help Protect Consumer Privacy* 11-13 (2012) (describing how “[s]ince the advent of consumer cellular technology, making and receiving mobile telephone calls has depended on the ability to determine a device’s location” and how GPS and other location-tracking technologies facilitate more precise determinations of a cellphone’s location). See also Amy Lee, *Why Google, Apple are Tracking Your Location*, Huffington Post, http://www.huffingtonpost.com/2011/04/27/google-apple-location-tracking_n_854114.html (last updated June 27, 2011) (quoting an advertisement consultant’s statement that “[s]martphone have given [advertisers] the ability to hone in on a potential customer at a series of coordinates on a street” and explaining how Google and Apple might make use of such information).

II. SPEECH PROTECTION FOR SILENT INFORMATION COLLECTION: FORGING A FIRST AMENDMENT LINK

A. *Hints of a Broader Right to Receive Information in the Speech and Press Clauses*

If we were considering this topic in 1965, the possibility that First Amendment rights might protect modern mapping may have seemed entirely foreclosed by the Supreme Court decision handed down that year. In *Zemel v. Rusk*, the Court made it clear that First Amendment jurisprudence does not establish a freestanding right to observe or investigate one's environment.⁸⁷ The court warned that "there are few restrictions on action which could not be clothed by ingenious argument in the garb of decreased data flow" and, as such, constitutionally challenged as reducing the information available to us.⁸⁸ After all, it could be argued that we always act as an audience of our environment. We see new sights and form new memories with just about every act we take in the world, and if we were constitutionally placed beyond most government regulation by virtue of the information we gathered while doing so, we would be beyond the reach of the law in most of our daily actions. Many government regulations that are now considered by courts to raise no First Amendment issues – for example, government restrictions of the non-speech conduct people engage in when they use illegal drugs or engage in gambling – might well implicate a First Amendment freedom to receive information if the Court were to recognize one. After all, when a person uses cocaine or plays roulette at a casino, she receives distinctive experiences and memories that she would be barred from having if the government were to make such experiences illegal. The same might be said of travel to a foreign country, as was in fact argued by the petitioner in *Zemel*, who claimed that by refusing to let him travel to Cuba, the U.S. State Department was violating his right to see and learn about the country for himself. The Court squarely rejected his argument, finding that if the First Amendment right to receive information gave *Zemel* such a right to travel abroad, it would also establish rights to engage in all other kinds of activities with little relationship to speech.

This was not the end of the story, however, as eminent First Amendment law scholars and at least one Supreme Court Justice

87. *Zemel v. Rusk*, 381 U.S. 1 (1965).

88. *Id.*

have questioned this holding. They have suggested that, at least in some circumstances, individuals may possess a constitutional right to learn about the world, not just vicariously from accounts in books, newspapers, and conversations, but through direct perception of the environment. Thomas Emerson, for example, argued that the Constitution must secure for us a right not only to speak about our knowledge, but also to acquire it – it must include a right “to listen” and a right “to see.”⁸⁹ Zechariah Chafee emphasized that a citizen should not be left to “form his opinions about our foreign policy merely from what he is told by officials of our government or by a few correspondents of American newspapers.”⁹⁰ Rather, he should be able to have “direct contact with” the foreign realms he wishes to explore.⁹¹ Justice Douglas’ dissenting opinion in *Zemel* supported precisely this right. Individuals such as *Zemel*, Douglas argued, have a right to “observe social, physical, political and other phenomena abroad as well as at home.”⁹²

These arguments, of course, have not prevailed with Douglas’ colleagues on the Court. However, over the years, the Court’s initial refusal to recognize any independent right to gather information has been, in important respects, questioned and eroded. While the Court initially declared that individuals only have a right to receive information from a “willing speaker,”⁹³ for example, it has since recognized at least one exception to this general rule. As the Court declared in *Richmond Newspapers v. Virginia*, members of the public have a First Amendment right to enter and observe the proceedings of a trial. “[T]he First Amendment guarantees of speech and press,” wrote Chief Justice Burger in that case, “prohibit government from summarily closing courtroom doors which had long been open to the public at the time that Amendment was adopted.”⁹⁴ Even if such observation is not aimed towards any willing speaker, the First Amendment affords interested members of the public the opportunity to be present and witness the proceedings for themselves. And in recent years, the *Richmond Newspapers* holding has been invoked, with

89. Thomas I. Emerson, *Legal Foundations of the Right to Know*, 1976 Wash. L.Q. 1, 2 (1976).

90. Zechariah Chafee, *Three Human Rights in the Constitution of 1787* 195-196 (The University of Kansas Press 1968) (1956).

91. *Id.*

92. *Zemel*, 381 U.S. at 24 (Douglas, J., dissenting).

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

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

some success, not merely by individuals seeking access to trials or other hearings, but by those wishing to observe, photograph, or otherwise record other government activity.⁹⁵ This, then, is one foundation that might support a right to observe and document public space.

There may be another textual basis in the Constitution for this right to observe. The Supreme Court has hinted that journalists and perhaps others may have another kind of right to gather information even from unwilling sources. Such an information-gathering right would be grounded not in the First Amendment's free speech guarantee, but in the protection it offers for freedom of press. "News gathering," the Court declared in *Branzburg v. Hayes*, "is not without its First Amendment protections," and "without some protection for seeking out news, freedom of the press could be eviscerated."⁹⁶ That case was not itself a victory for the press because the Court declined to find that reporters have a First Amendment right to keep their sources confidential. Moreover, in subsequent cases where reporters sought information on prison conditions, the Court suggested that the press has no more right than the larger public to explore government property or the workings of government organizations.⁹⁷ But it has never repudiated its insistence in *Branzburg* that there must be "some protection for seeking out news,"⁹⁸ and this perhaps provides the beginnings of a model of constitutional protection for those seeking to explore and record their environment.

Relying on precedents such as these, lower courts in recent years have found that individuals not only have a right to observe and take notes about certain aspects of the surrounding world, but to also videotape them. Earlier this year, for example, the Seventh Circuit in *American Civil Liberties Union v. Alvarez* held that citizens have a right to make a video and audio recording of police

95. The Ninth Circuit Court of Appeals, for example, noted earlier this year noted that such a test may justify a reporters' insistence that she be able to watch a horse roundup managed by the Bureau of Land Management. As the Court noted in that decision, the First Amendment access right recognized in *Richmond Newspapers*, and further elaborated in *Press-Enter. Co. v. Superior Court*, 478 U.S. 1, 8 (1986), "is not limited to criminal judicial proceedings" and has been applied to "a wide range of civil and administrative government activities." *Leigh v. Salazar*, 677 F.3d 892, 899-900 (9th Cir. 2012). See also *Glik v. Cunniffe*, 655 F.3d 78, 82 (1st Cir. 2011).

96. *Branzburg v. Hayes*, 408 U.S. 665, 681, 707 (1972).

97. See *infra* text accompanying notes 189-99.

98. *Branzburg*, 408 U.S. at 681.

actions.⁹⁹ The First Amendment, it said, was largely grounded in the need for people “to see, examine, and be informed of their government,” and it took note of the Supreme Court’s statement in *Branzburg* that there must be “‘some protection’ for gathering information” about governmental affairs.¹⁰⁰ The First Circuit reached a similar conclusion in *Glik v. Cunniffe* last year. Relying on the *Richmond Newspapers* right to observe trials and other government proceedings, the court in *Glik* found that such rights of access to information clearly extended to “the filming of government officials engaged in their duties in a public place, including police officers performing their responsibilities.”¹⁰¹ Earlier cases have held that such a right to make a record of nearby events covers not only police encounters, but also other “matters of public interest,” such as protests and other demonstrations.¹⁰²

Drawing on these holdings, creators and users of computer-generated maps might compellingly argue that a right to record “matters of public interest” protects them, too. If the First Amendment shields those who photograph or videotape a police encounter or an anti-government demonstration on the streets, why not also those who photograph the streets and the cityscape that surround them? The information in dynamic maps might well serve the public interest given the striking number of people making use of such maps and the ways in which they do so.¹⁰³ The

99. *American Civil Liberties Union v. Alvarez*, 679 F.3d 583, 606 (7th Cir. 2012).

100. *Id.* at 599.

101. *Glik v. Cunniffe*, 655 F.3d 78, 82 (1st Cir. 2011). However, a district court recently limited this right to peaceful, non-disruptive recordings. *Gericke v. Begin*, No. 11-cv-231-SM, 2012 WL 4893218 (D.N.H. Oct. 15, 2012).

102. *Smith v. Cumming*, 212 F.3d 1332, 1333 (11th Cir. 2000) (noting 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 that this includes a right to “photograph or videotape police conduct”). See also *Robinson v. Fetterman*, 378 F. Supp. 2d 534, 541 (2005) (affirming that “[t]he activities of the police, like those of other public officials, are subject to public scrutiny”). However, at least one court has declined to extend unqualified First Amendment protection to audio recordings of unsuspecting police officers. See *Matheny v. Cnty. of Allegheny, Pa.*, 2010 WL 1007859, at *9 (W.D. Pa. 2010).

103. A recent article, for example, found that “a projected 77.8 million U.S. smartphone owners” use “the Google Maps app at least once a month” with another 17 million accessing it from the Web. See Sean O’Neil, *Google Maps, GasBuddy and Urbanspoon Most Popular Travel Apps by US Usage*, <http://www.tnooz.com/2012/08/30/news/google-maps-gasbuddy-and-urbanspoon-most-popular-travel-apps-by-us-usage/> (Aug. 30, 2012).

public relies on maps for purposes as mundane as finding their way to an unfamiliar house or public landmark, but also for purposes with more political importance, such as better understanding the impact of specific government measures on the environment.¹⁰⁴ Since mapmakers obtain crucial data for others, their information-gathering efforts may well deserve the same protection as those of journalists and others who report, or record, the actions of law enforcement or government protesters. If, as Justice Powell has said, journalists act as “agents” of the public by obtaining information on current affairs that citizens cannot obtain for themselves,¹⁰⁵ then those who create information-rich maps do the same by bringing to citizens knowledge of geography and the surrounding environment that they cannot access themselves.

This conception of mapmakers as geographical journalists is worth careful consideration. Barry McDonald argues that the circumstances of modern life justify extending First Amendment protection not only to journalists but to other entities that play a critical role in obtaining information for citizens such as academic researchers or non-governmental organizations like think tanks and public policy groups.¹⁰⁶ Perhaps map-making entities belong on this list as well, and I will more closely consider at a later point whether it is the First Amendment’s protection of the press, rather than of speech, which should provide a constitutional foundation for a right to document public space.

B. Grounding Rights to Information-Gathering in the Speech Clause

Before looking more closely at how mapmakers might benefit from freedom of press, however, I want to examine how map-making might be protected as speech or as the medium or means of speech. In short, there are arguments advanced by legal scholars

104. See, e.g., *Climate Change in Google Earth*, Google Earth, <http://www.google.com/landing/cop15/> (last visited Nov. 20 2012) (inviting users to “explore the potential impacts of climate change,” “view climate change scenarios,” and “investigate deforestation”); *Welcome to ToxicRisk.com*, Toxic Risk, <http://toxicrisk.com/#38.479394,-97.558593,8> (last visited Nov. 20, 2012) (hosting a Google Maps “mash up project” that overlays information onto Google Maps to convey chemical pollution release levels near American schools).

105. *Saxbe v. Washington Post*, 417 U.S. 843, 863 (1974) (Powell, J., dissenting).

106. See McDonald, *supra* note 29, at 256, 353 n.341 (arguing that “were the government to purposefully target their information-gathering activities to suppress certain speech,” the action may be viewed as an indirect restraint on the speech itself and subject to scrutiny under the First Amendment).

and others that might help bring computer-generated mapping into the First Amendment fold by holding that whatever differences may exist between modern and old-fashioned image capture, they do not justify excluding modern mapping entirely.

It is helpful to begin by briefly identifying two high-level arguments that fit this description. The key question these arguments must address is how the receipt of information can be protected by the First Amendment even if it comes, not from a “willing speaker,” as the Supreme Court requires, but directly from the natural or built environment. How, in other words, can one overcome the disconnect between the First Amendment’s protection for “speech” or expression and expanding such protection to arguably *non-expressive* information-gathering? There are two basic answers: (i) one highlights an underlying link between this apparently non-expressive information-gathering activity and First Amendment “speech” and (ii) the other focuses not on linking such information-gathering to speech protection itself, but rather to the purposes that underlie it such as the need to ensure that citizens have the information they need to question and evaluate the actions of their government.

Each of these arguments recently played a central role in the Seventh Circuit’s decision in *American Civil Liberties Union v. Alvarez*, holding that video recording of police encounters was covered by First Amendment protection.¹⁰⁷ Faced with the state’s argument that such video recording was non-expressive conduct and therefore outside the First Amendment’s coverage, the Seventh Circuit responded with two major points. First, the court held that while obtaining video footage may itself be non-expressive, it is a crucial condition of a very familiar kind of expressive act – namely, the dissemination of video footage. “The right to publish or broadcast an audio or audiovisual recording,” it emphasized, “would be insecure, or largely ineffective, if the antecedent act of *making* the recording is wholly unprotected.”¹⁰⁸ The state should not be allowed to suppress speech protected by the First Amendment simply by targeting it in its formative stages before dissemination. Moreover, the Court found, videotaping of police encounters not only furthers speech but bears a clear connection to the most well-known purpose of the First Amendment of keeping citizens informed about their government’s activities. A law barring citizens from recording police encounters

107. *American Civil Liberties Union v. Alvarez*, 679 F.3d 583, 586 (7th Cir. 2012).

108. *Id.* at 595.

interferes with “the gathering and dissemination of information about government officials performing their duties in public.”¹⁰⁹ The same arguments have played a key role in other court cases on information-gathering rights,¹¹⁰ and it would not be surprising if they surfaced in future cases, including those involving the creation of maps or other technologies that help individuals locate themselves in their environment, or explore it. On closer examination, however, each of these arguments raises difficulties and thus warrants discussion.

1. Linking Information-Gathering to First Amendment Speech

There are at least two major ways that we might link non-expressive exploration, or documentation, of one’s environment to expression. We might argue: (a) that the receipt of information from the environment may be an integral part of an act of expression, an essential part of the medium through which key forms of protected speech are transmitted, or a means or precondition of expression in some other sense or (b) that even if there is nothing inherent in an act of video recording or image capture that makes it expressive when considered in isolation, it should be considered expressive when the government’s reason for targeting it is to stop some speech it makes possible.

a. Receipt of Information as an Essential Part of Expression – or as a Medium for, or Condition of, Speech

Some acts of receiving information have a double character: they are *simultaneously* acts of expression. When someone takes a photo of a particular scene, one might argue, they are not merely receiving and capturing the light that allows them to see it but *also* expressing themselves by converting that light into a work of photography that is the product of their own creative acts. Taking a picture is in many respects analogous to drawing or painting what one sees. It represents and fixes a visual experience in a particular medium of expression, usually to remember it later or to share it with others. To be sure, we do not usually regard every photo we take with a digital camera or smartphone as an artistic creation. Now that digital cameras are cheaper, have memory for thousands of pictures, and come built into most sophisticated cellphones, people take many more pictures and videos of the world around

109. *Id.* at 600.

110. *See supra* text accompanying notes 88-103.

them – often not to exercise their creative powers, but to capture images they want to remember later (perhaps even those in a business card or memo). But there seems little reason to exclude such acts of expression simply because there is less artistry or deliberation in the picture taking than there is in photography guided by aesthetic considerations. Outside of obscenity cases, the Supreme Court has never been willing to exclude a film, book, or picture from the scope of the First Amendment on the grounds that it is insufficiently artistic or that it was created for a practical purpose.¹¹¹ In this respect, the court’s jurisprudence is in line with an argument made by First Amendment scholar Robert Post that once a social practice is recognized as expression for First Amendment purposes, courts do not (and should not) exclude particular instances of that practice on the grounds that they do not share all of the qualities that lead us to characterize the general practice as First Amendment expression.¹¹² Even a film that lacks a story and a message, for example, is still a film, and free speech protection should be extended to the social practice as a whole, not to particular instances of the practice that the court finds worthy of protection.¹¹³

However, even if the First Amendment covers the social practice of photography, there are reasons to think it may still not fully cover the image capture and remote sensing necessary to create computer-generated maps and globes, and perhaps at least some of the pervasive image capture made possible by cellphones. First, even if our act of snapping a photo counts as protected expression, this may not be true of the act of travelling to, or staying in, the location from which the picture must be taken. Consider again the case of *Zemel v. Rusk*, where the Supreme Court rejected the petitioner’s argument that “rights guaranteed by the First Amendment” included a right to visit and explore Cuba so that he “might acquaint” himself “firsthand” with the effects of

111. See *Brown v. Entertainment Merchants Association*, 131 S.Ct. 2729, 2737 n.4 (2011) (“[C]ultural and intellectual differences are not *constitutional* ones. Crudely violent video games, tawdry TV shows, and cheap novels and magazines are no less forms of speech than *The Divine Comedy*.”). See also *Stanley v. Georgia*, 394 U.S. 557, 566 (1969) (“The line between the transmission of ideas and mere entertainment is much too elusive for this Court to draw, if indeed such a line can be drawn at all.”) (citation omitted).

112. See Robert Post, *Recuperating First Amendment Doctrine*, 47 Stan. L. Rev. 1249, 1253-55 (1995).

113. *Id.* at 1253.

American policy there.¹¹⁴ Had Zemel emphasized that he not only wanted to see Cuba, but also wanted to take pictures there, it is hard to see how this would have made a difference to the Court. On the contrary, they probably would have rejected this argument for the same reason that they rejected Zemel's actual argument. It would be absurd to think that, because you have a right to take a picture of a scene in front of you, you therefore have a right to take any action necessary to be in front of such a scene. The First Amendment right to capture an image cannot, considered by itself, give you a right to enter someone else's private property so that you can take pictures of it, nor to enter a secret military base, nor to steal a product from a store so that you can videotape a theft. Such an argument has more force, of course, when citizens are in public streets where they have a right to be and are aiming their cameras at events that are clearly of public concern, such as those in which police officers are wielding the coercive power of the state. This may explain why courts have not explored the possible limits of this argument, but the right to information-gathering as justified may have little force where one is not on a public street, with cameras focused exclusively on an official actor.

Consequently, mapmakers may find that even if the photographs they take from satellites, airplanes, and trucks are protected and may be taken without government permission, they *remain* at the mercy of government regulation when they wish to place those satellites, planes, or trucks at the locations necessary to photograph the geographic features that their maps are supposed to show. The same may be true also of those who use cellphones to take pictures far from police encounters or public protests, aiming simply at a building or architectural feature that interests them. They may well be barred from taking the actions necessary to get a certain vantage point on the intended target of their photography or filmmaking, even when in a "public forum" such as a street or a park, spaces where the Supreme Court has found individuals to have robust rights to communicate to bystanders.¹¹⁵

Second, there is another reason that it may be not only the placement of cameras by Google and other map-making entities that falls outside the First Amendment's scope, but also the capture

114. *Zemel v. Rusk*, 381 U.S. 1, 16 (1965).

115. See, e.g., *United States v. Kokinda*, 497 U.S. 720, 727 (1990) ("Regulation of speech activity on governmental property that has been traditionally open to the public for expressive activity, such as public streets and parks, is examined under strict scrutiny.") (citing *Perry Educ. Ass'n v. Perry Local Educators' Ass'n*, 460 U.S. 37, 45 (1983)).

of images by those cameras. As suggested earlier, even if the First Amendment covers the social practice of individuals' photography with hand-held cameras or video cameras, whether they are stand-alone devices or built into cellphones, that does not necessarily mean it covers the arguably different social practice of capturing images across much greater spaces using an entire fleet of automated cameras, some of which can detect, and create images from, light outside of the visible spectrum. Post's argument for defining speech by examining "social practices" is helpful in avoiding some of the pitfalls in the Court's existing approach to defining speech, but also raises some of its own difficult challenges, including determining what counts as a particular social practice.¹¹⁶

In some cases, this challenge may be easily resolved. When the only thing that differentiates a story-less, avant-garde film from a Oscar-winning drama is its *content* – not the camera technology used to create it, the projection systems used to show it, or the social behavior that gives it an audience – then it seems arbitrary and deeply at odds with central principles of First Amendment jurisprudence to exclude one film from the First Amendment's scope while including the other.¹¹⁷ An avant-garde film is just as much a film as a conventional drama. By contrast, there are other cases where we may use the same word or phrase – like "software programming" "video game play," or "photography" – to describe not merely a single social practice, but rather a collection of different social practices, each of which may deserve different First Amendment treatment. For example, the term "video game" has been applied to interactive story-driven games, such as *Civilization Revolution*¹¹⁸ or *Master of Alchemy*;¹¹⁹ to arcade-style games in which one moves abstract shapes (often artistically distinctive and striking shapes) according to rules; to simple iPhone game-based

116. See Marc Jonathan Blitz, *A First Amendment for 'Second Life': What Virtual Worlds Mean for the Law of Video Games*, 11 Vand. J. Ent. & Tech. L. 779, 806-07 (2009) (discussing Post's framework for distinguishing speech from non-speech).

117. *Id.* at 806-08.

118. See *Civilization Revolution*, <http://www.civilizationrevolution.com> (last visited Nov. 13, 2012) (a strategy game in which "players strive to become Ruler of the World by establishing and leading a civilization from the dawn of man into the space age").

119. See *Master of Alchemy Review*, Gamezebo, <http://www.gamezebo.com/games/master-alchemy/review> (Oct. 11, 2012) (a puzzle game where the player's journey depends on the successful "alchemical transmutation" of elements).

puzzles such as Quadrum,¹²⁰ or to virtual environments, like Second Life¹²¹ or the Sims,¹²² in which people are left free to live out the story of their choice. It is not clear if all of these are the same social practice. Software programming likewise encompasses a dizzying variety of conduct depending on the nature of the software. The same is true of photography. As already noted, the image capture used by Google, Microsoft, and other entities to create the data for their maps differs in important ways from the practice of photography by individuals. It is conducted on a more massive scale than would be possible for an individual. While a person might create a running movie of her waking hours with a device filming everything he or she encounters,¹²³ she would still be capturing only her *own* minute-to-minute experiences.

By contrast, map-making companies can collect and aggregate video or photo from an army of travelling cameras, often in spaces that are beyond the reach of the average photographer, such as satellites and planes positioned far above the earth's surface, trucks that can capture simultaneous footage of places miles apart. These cameras are often automated and can capture images for hours without human intervention.¹²⁴ Not only are these cameras equipped with magnification more powerful than most consumer devices, they can also sometimes use "remote sensing" technology to create images from sound, or from wavelengths of light that individuals can neither see nor easily incorporate into photos.¹²⁵ This is arguably a different social practice from that which an individual photographer engages in to express herself or record experiences. When companies recruit an army of aerial and truck-mounted automated cameras and equip them with incredible magnification and remote sensing technology, they typically do so

120. See *Quadrum: Colors Review*, SlideToPlay, <http://www.slidetoplay.com/story/quadrumcolors-review> (Jan. 9, 2009) (giving a positive review for a Quadrum, a standard iPhone puzzle game).

121. See Jessica Bennett, *Why Millions Are Living Virtual Lives Online*, Newsweek, July 29, 2007, available at <http://www.thedailybeast.com/newsweek/2007/07/29/alternate-universe.html> (describing Second Life as a virtual environment in which people are "doing business, collaborating on research, teaching courses, dating and even having sex").

122. *What is the Sims*, The Sims, http://thesims.com/en_US/what-is-the-sims (last visited Oct. 29, 2012) (describing the Sims as a "pioneer in the "Life Simulation genre" that "lets you do things you might never do in real life").

123. See Allen, *supra* note 76 (describing photo, video and other devices that can be used to "lifelog" the daily experiences of users).

124. See *supra* text accompanying notes 73-75.

125. See *supra* text accompanying notes 81-85.

not to engage in creative expression or to record individual experience, but to create and commercialize a consumer mapping or navigation product.

Even if the creation of maps and the data collection it entails do not count as part of the practice of photographic expression, they might fall within the scope of the First Amendment in another way as an indispensable *medium* for such speech even if it is not First Amendment speech itself. Mapping creation technology, in other words, may be like the software that allows a user to design a Web page, create and edit a film, or compose a piece of music.¹²⁶ The software itself arguably consists of some components that are not themselves speech. They are functional rather than expressive. Moreover, before it is used to create a work of art or expression, Web design software is devoid of any particularized and comprehensible message of the kind the Supreme Court in *Spence v. Washington* held as necessary to constitute protected speech under the First Amendment.¹²⁷ But even to the extent such software is not itself speech, it provides a medium without which certain kinds of speech cannot exist, and tools without which certain kinds of expression cannot be created. Mapping software is arguably the same. It allows individuals to add to a palette of expressive tools that already includes visual and auditory tools for Web page-, film-, and music-creation, tools that allow individuals to connect their expression to particular physical spaces or environments. Consider the numerous individuals who “geotag”

126. Certain cases have held that while computer code in some respects performs non-speech functions that are unprotected by the First Amendment, it also possesses expressive elements. See, e.g., *Universal City Studios, Inc. v. Corley*, 273 F.3d 429, 449-50 (2d Cir. 2001) (holding computer code conveying information to be speech for First Amendment purposes); *University City Studios, Inc. v. Reimerdes*, 111 F. Supp. 2d 294, 304 (S.D.N.Y. 2000) (noting that “[c]omputer code is expressive” and thus a “matter of First Amendment concern” in that respect, but “not purely expressive”); *Junger v. Daley*, 209 F.3d 481, 484-85 (6th Cir. 2000) (holding that “source code has both an expressive feature and a functional feature” but is nonetheless entitled to First Amendment protection). However, even if software were not itself inherently expressive, arguments of the kind embraced by the Seventh Circuit in *Alvarez* would probably justify protecting it where it serves as an indispensable means or medium of expression. If the First Amendment protects tools of expression such as the “brushes and canvas” used to produce art and the “strings and woodwinds” used to produce music, then it is difficult to imagine why it would not similarly protect the electronic tools used by individuals in contemporary times to produce art, music, and writing. *American Civil Liberties Union v. Alvarez*, 679 F.3d 583, 596 (7th Cir. 2012).

127. *Spence v. Washington*, 418 U.S. 405, 409-11 (1974).

the pictures they take or the messages they send, for example, by sending a map or tag that allows the individual to link to a representation of the place in question.

A sense of location and direction is, after all, often as much a part of our own experience (and in fact, that of many other species) as is our sense of the visual and auditory stimuli in our visual environment. As has been shown by numerous recent studies of “place cells” in the brain’s hippocampus, a brain region that is central and indispensable to memory creation, the mapping of our surroundings appears to be such a basic part of human (and other animals’) lives¹²⁸ that the capacity for doing so appears to be built just as deeply into our biology as the capacity to detect light or sound and furthermore, that we map automatically without being conscious of it. It should thus not be surprising that we often find good reason to connect our expressive life to this central part of our spatial experience of the world. Our place in geographic space provides a central reference point and framework for numerous other aspects of our life, so it stands to reason that when we tell a story or suggest a planned course of action, we often have good reason to link that story or plan to events that unfold (or that we envision unfolding) in or near particular locations, landmarks, and routes. To deprive us of maps that structure our lives in this way is thus to cripple key parts of our communication, perhaps to the same, or greater, extent that it would be crippled by restrictions that denied us software for creating Web pages or digital films or musical compositions.

Even such an indirect attack on speech would arguably be barred by the speech clause. As Justice Douglas noted in *Griswold v. Connecticut*, First Amendment freedom of speech would be of little value unless it went beyond protecting the “primary right” to speak, and also protected the “peripheral rights” necessary for that primary right to have an influence on its environment: the right to distribute or disseminate that speech, for example, or to provide a platform for it.¹²⁹ It is hard to see how such peripheral rights could fail to include the right to have access to the media and tools that

128. Reza Shadmehr & Sandro Mussa-Ivaldi, Biological Learning and Control: How the Brain Builds Representations, Predicts Events, and Make Decisions 19 (2012) (describing how place cells represent points in space and how London taxi drivers, who have to memorize far more spatial routes than a typical individual, have been observed to have “an expanded posterior hippocampus compared to controls that do not drive taxis”).

129. See *Griswold v. Connecticut*, 381 U.S. 479, 482-83 (1965) (holding that the right of freedom of speech and press may include the right to distribute, the right to receive, the right to read).

make speech possible. This might include simple technology such as a bullhorn or sound-truck for amplifying one's voice. As Justice Black once noted, such amplification technology provides a means of communication for those who might not otherwise be able to afford the cost of distributing their speech. Physical and electronic space itself provides a speech resource of this kind. Thus, Harry Kalven, Jr., describes public forums such as streets and parks as "the poor man's printing press."¹³⁰ In more recent times, the Court has emphasized the importance of the World Wide Web as a means of communication. In the era of the Web, it noted, "[a]ny person or organization with a computer connected to the Internet can 'publish' information."¹³¹

One might make the same point about audiovisual technology for projecting and watching a movie or for listening to a piece of music. It is hard to see how government restrictions on such speech-enabling technology could be found constitutionally unproblematic given their damaging effects on First Amendment activity. Indeed, scholars and judges have made precisely this point, and the Seventh Circuit stressed it in its case protecting recordings of police action. As the Seventh Circuit emphasized, a legal restriction may raise grave First Amendment problems not simply by targeting communication directly, but by instead seeking to deprive would-be speakers of a "common, indeed ubiquitous, instrument of communication."¹³² This point, as the court reminded its readers, has received powerful and eloquent endorsement in other courts' First Amendment case law, including that of the Supreme Court itself. In *City of LaDue v. Gilleo*, for example, the Supreme Court noted that "regulation of a medium [of expression] inevitably affects communication itself."¹³³ A recent Ninth Circuit case made the same point, and went further, noting that it is often difficult to conceptually distinguish the medium from the message it contains: "The process of expression through a medium has never been thought so distinct from the expression itself that we could disaggregate Picasso from his brushes and canvas, or that we could value Beethoven without the benefit of strings and woodwinds."¹³⁴ Quoting this language, the Seventh

130. Harry Kalven, Jr., *The Concept of a Public Forum: Cox v. Louisiana*, 1965 Sup. Ct. Rev. 1, 30.

131. *Reno v. American Civil Liberties Union*, 521 U.S. 844, 853 (1997).

132. *American Civil Liberties Union v. Alvarez*, 679 F.3d 583, 596 (7th Cir. 2012).

133. *City of Ladue v. Gilleo*, 512 U.S. 43, 48 (1994).

134. *Anderson v. City of Hermosa Beach*, 621 F.3d 1051, 1062 (9th Cir.

Circuit in *Alvarez* noted that “[t]his observation holds true when the expressive medium is mechanical rather than manual.”¹³⁵ Films and audio recordings can hardly exist without the cameras and sound recording systems that make them possible.

If this is true of hardware, like an amplifier, projector, or computer cable, it may be equally true of software, including mapping software, and the data necessary to let it do its job of enabling individuals to visualize and place themselves within geographic space. Viewed this way, the image capture that Google and others engage in to create maps, including with the “remote sensing” they use to build pictures from invisible radiation, may be protected even if it is not – considered *by itself* – an act of expression. Rather, it is protected because the process of creating such records is now the “common, indeed ubiquitous, instrument of communication” described in *Alvarez*.¹³⁶ Such image creation generates digital maps that are themselves arguably expressive and that serve as a critical medium for *other* expression by giving individuals a geographic template upon which they can weave their stories, reports, and other messages into a framework that contains data about the surrounding environment. This medium-generating process may include not only the act of receiving, and photographically capturing or sensing, this information. It might also entail placing one’s cameras and other technology in the *right position* to record the environment and visually represent it.

Thus, Seth Kreimer, anticipating the argument later developed by the Seventh Circuit in *Alvarez*, set forth a powerful argument for giving image capture constitutional status by noting the extent to which image capture constitutes a medium of expression:

Image capture is a precondition for effective participation in the contemporary visual ecology of communication. To post an image from life on Flickr, YouTube, or one’s own blog, or to send it to a friend by text message or e-mail, one must first capture the image. A prohibition on image capture is effectively a prohibition of sharing spontaneous images from life.¹³⁷

This insight that map-making processes are essential components of what is now a widespread medium of expression is

2010).

135. *Alvarez*, 679 F.3d at 596.

136. *Id.*

137. Kreimer, *supra* note 72, at 385.

likely to face at least two objections. First, if mapping is a part of our freedom of speech because it provides an indispensable support for speech, what about the other myriad forms of human acts that serve as a necessary condition for some kind of speech?¹³⁸ One cannot, for example, write a non-fiction article about one's experience taking space flight unless one first has the chance to do so. Similarly, a physicist cannot publish a scientific article reporting her discoveries upon accelerating protons to near light speed unless she or others first have a particle accelerator constructed that can make protons reach that speed. It seems absurd to say that people have a First Amendment right to become private astronauts or to build a billion-dollar particle accelerator simply because such acts are a condition for certain kinds of speech. There is, however, a difference between characterizing an action as a *condition* of some *subsequent instance of speech*, and characterizing a certain combination or practice and technology as constituting a *medium* for a large *variety of speech acts*. Government regulations that banned use of bullhorns or of the World Wide Web, for example, could not be defended on the grounds that they simply take away a condition of one particular kind of speech because they would deny people speech-enabling technology essential to many different forms of modern communication.¹³⁹ Similarly, while maps, GIS software, and virtual globes come with more inherent content than a bullhorn or a blank Web template by virtue of their geographic information, this information serves as a foundation for a dizzying variety of speech acts that have little in common with each other despite their use of our shared sense of geographic space. In short, map-making is more plausibly characterized as a "common, indeed ubiquitous, instrument of communication" than is the act of becoming an astronaut or building a particle accelerator.

Note, however, that this argument is limited in important ways. First, it seems – quite strangely – to provide more protection for photographing or for video recording an event or feature of one's

138. See Barry P. McDonald, *Government Regulation or Other 'Abridgements' of Scientific Research: The Proper Scope of Judicial Review Under the First Amendment*, 54 Emory L.J. 979, 1000 (stating that *any* conduct that is arguably necessary to engage in particular types of expression, such as riding a bicycle in order to write about that experience, would be protected by the First Amendment and that such an interpretation is not a reasonable construction of the freedoms of "speech" and "press").

139. See *City of Gilleo v. Ladue*, 512 U.S. 43, 55 (1994) (noting that the Court has particularly skeptical of "laws that foreclose an entire medium of expression").

environment than it does for the less intrusive act of simply observing it. If it is the presence and use of an “instrument of communication” that provides the basis for First Amendment information-gathering protection, then this seems to have the puzzling consequence that a person cannot simply watch and try to understand an event unless he brings a camera to snap a picture of it, or at the very least, a notebook to write down his descriptions of it. One might, of course, characterize bare observation with one’s eyes and natural memory alone as an essential instrument or precondition of communication. We cannot easily discuss an event with others in the future if we have been barred from watching and learning about it. But defining an “instrument of communication” this broadly seems to convert the right to receive information into precisely the kind of boundless right that the Supreme Court felt compelled to reject in *Zemel*. Moreover, the existing ubiquity of cellphone cameras and other (relatively) inexpensive means for recording one’s environment makes this potential boundlessness a problem even if courts *do* demand that individuals supplement their observations of the environment with some technologies for documenting it. As noted earlier, it seems highly unlikely that the current Court would reach a different result about facts almost identical to those in *Zemel* simply because the would-be traveler could show that he would be bringing a camera or other recording device to Cuba to record his experiences. The government could not, under the logic of the Seventh Circuit’s reasoning in *Alvarez*, directly target this traveler’s use of his own camera, but it could (as it did in the 1965 case) impose limits on the places in, and circumstances under which, he might use that camera.

Indeed, it is not clear that even robust protection for our use of instruments or technologies for creating expression would provide the support necessary to stave off significant restrictions on how we use such technologies. After all, courts have not found intellectual property laws to be unconstitutional simply because they prevent us from filming some of our own experiences. It is usually illegal for us to tape the movie we watch in a cinema, whether it is an indoor or a drive-in theater.¹⁴⁰ We may likewise be barred from

140. See 18 U.S.C. § 2319B (2006) (“Any person who, without the authorization of the copyright owner, knowingly uses or attempts to use an audiovisual recording device to transmit or make a copy of a motion picture or other audiovisual work protected under title 17, or any part thereof, from a performance of such work in a motion picture exhibition facility, shall—

filming a play, a dance, or a baseball game. Perhaps, one might therefore argue, the government should be able to bar us from capturing other images in order to protect privacy, security, or some other public interest. Such restrictions would not prevent us from engaging in other sorts of permissible photography or filmmaking, so it would not completely deprive us of a certain means of expression. Consider again the examples given above about a possible restriction of other expression-enabling technologies such as a bullhorn or the use of the World Wide Web. While the government cannot bar us from using the World Wide Web, it may enforce laws that prevent us from accessing, or copying information from, certain sites. We may not be able to enter a government or private site that is password protected and to which we have no authorization to access,¹⁴¹ and we may not be able to copy a copyrighted image. Though the government cannot prevent us from using bullhorns altogether, it may bar the use of bullhorns in military bases and other non-public fora and may impose content-neutral restrictions on such technology in public fora (for example, banning the use of bullhorns that produce certain kinds of background noise). Other reasons are thus often necessary for a court to distinguish permissible from impermissible limits on our use of expression-creating technology, and some jurists and scholars have found such reasons in an examination of the purposes underlying government restrictions.

b. Receipt of Information-Gathering as a Target of Government Censorship

One might respond to the objection I have just listed by arguing that we focus not only on the expression, or expression-enabling technology that is regulated, but rather on *the government's purpose in regulating it*. More specifically, where the government is restricting the acts of photographers and mapmakers in order to *target* speech, it violates the First Amendment. Where, by contrast, it regulates map-making for some other reason, First Amendment questions do not arise at all.¹⁴²

(1) be imprisoned for not more than 3 years, fined under this title, or both; or

(2) if the offense is a second or subsequent offense, be imprisoned for no more than 6 years, fined under this title, or both.”).

141. See Computer Fraud and Abuse Act, 18 U.S.C. § 1030, et seq.

142. This logic is similar to the *O'Brien* test that bars the government from basing its restriction of symbolic conduct on an interest in “suppressing speech,” except that it allows, as indicated in the remainder of this section, that some

This model provides a simple rule for extending the First Amendment to some information-capturing activities without stretching it to a breaking point. Yet again, consider *Zemel v. Rusk*.¹⁴³ Zemel, one might argue, should have *won* his First Amendment case if he could produce evidence that government officials sought to stop him and others from travelling to Cuba first and foremost because they wanted to assure that neither he nor other citizens could write a book about Cuba, disseminate pictures of it, or create a map of it. In other words, if the government's bar on travelling to Cuba was really a way to prevent anyone from *speaking about it* in certain ways, then it would run afoul of First Amendment limits. If, on the other hand, the government erected barriers to such speech about Cuba merely as an unintended (or unavoidable) side effect of a travel ban based on other purposes, such as protecting travelers or preventing Americans from aiding a hostile nation, then courts would find no constitutional problem. The same framework, one might argue, should apply to the aerial-photography and other data gathering of companies like Bing Maps and Google Earth. Where the government wants to stop such data gathering about the environment only to assure that this environment can never be represented and spoken about, a First Amendment challenge might well succeed (unless the government could show that thwarting such speech was necessary to serve a compelling government interest). By contrast, where government officials have no objection to the creation of such a map but only to the effects of processes used to create it, they would be as free to regulate as they do social and economic activities – as long as they showed a rational basis.

Such a model for applying a right to receive information has been endorsed by jurists and scholars in other circumstances. They have, for example, indicated that legislation that might be otherwise permissible under the First Amendment might become impermissible when its underlying aim is to restrict an individual's thought. In *Stanley v. Georgia*, the Supreme Court insisted that government "cannot constitutionally premise legislation on the

information-gathering actions that have only an incidental effect on speech may be subject to rational basis review rather than the intermediate scrutiny standard set forth in *O'Brien*. See *United States v. O'Brien*, 391 US. 367, 377 (1968) (noting that the government interest justifying content-neutral restriction must be unrelated to "the suppression of free expression"); see also *infra* text accompanying notes 151-55.

143. See 17 U.S.C. § 106 ("the owner of the copyright has the exclusive rights . . . to reproduce the copyrighted work").

desirability of controlling a person's private thoughts.”¹⁴⁴ With this principal in mind, the Court later indicated that government laws that limit our capacity for free thought are permissible – and indeed, provide little cause for concern – when their limitations on thinking are simply entirely “incidental.”¹⁴⁵ When, for example, the government prohibits child pornography, its attempt to spare children harm may have the consequence of preventing such pornographic imagery from being conjured in an individual's imagination with the aid of the banned image. But such a restriction on the viewer's imagination is not the government's goal but a necessary, and incidental, consequence of protecting real children from being used for the production of such a picture. Dana Remus has proposed adapting such a framework of First Amendment analysis to the task of deciding when government restriction on scientific experiments is permissible under the First Amendment. When the government targets scientific thought directly, she argues, they should be subject to strict scrutiny.¹⁴⁶ When the limitation on scientific thought is incidental, by contrast, the restriction should have to meet only intermediate scrutiny.¹⁴⁷ And Barry McDonald has argued that such considerations should likewise apply to restrictions on information-gathering.¹⁴⁸

This conception arguably captures some of the central concerns that courts raise when they encounter a government restriction on information-gathering. Those interested in skirting laws might, as the Court noted in *Zemel*, seek to gain the benefit of First Amendment protection by “cloth[ing]” their desired evasion of the law in the “the garb of decreased data flow.”¹⁴⁹ But at times, a government's attack on data flow is not simply an unintended byproduct of an attempt to address another harm – it is the goal of the action itself. The point of the regulation is to assure that certain

144. *Stanley v. Georgia*, 394 U.S. 557, 566 (1969).

145. See *Paris Adult Theater I v. Slaton*, 413 U.S. 49, 68 (1973) (stating that “the mere fact that, as a consequence [of valid state regulation] some human ‘utterances’ or ‘thoughts’ may be incidentally affected does not bar the State from acting to protect legitimate state interests”).

146. See Dana Remus Irwin, *Freedom of Thought and the Scientific Method*, 2005 Wis. L. Rev. 1479, 1523-24, 1532-33 (2005).

147. *Zemel v. Rusk*, 381 U.S. 1, 16-17 (1965).

148. See McDonald, *supra* note 29, at 353 (noting that “were the government to purposefully target their information-gathering activities in order to suppress certain speech” the government action could be viewed as an indirect restraint on the speech itself and subject to the First Amendment scrutiny applicable to restrictions on such speech”).

149. *Zemel*, 381 U.S. at 16-17.

official acts remain unseen by, and unknown to, a wider audience. This focus on government purposes also provides a possible solution to the line-drawing problems we have encountered thus far in analyzing the right to receive information and ideas: only government restrictions that aim directly at information-gathering are problematic under the First Amendment. Other regulations might be subject only to intermediate scrutiny or, more likely, be as free from First Amendment restriction as any garden-variety restriction on physical or economic conduct, regardless of the regulation's incidental effects on data flow.

But it is rarely the case that the government is unable to find *some* non-speech-based justification for a speech-targeting restriction. Thus, a government bothered about individual access to maps might generate some excuse related to traffic-control or crowding concerns to justify restrictions on such expression. Moreover, courts have often proclaimed unwillingness, in certain First Amendment speech cases, to look behind the face of a statute to try to uncover hidden purposes that might reveal a desire to target speech. In *O'Brien v. United States*,¹⁵⁰ for example, the plaintiff, who had been convicted for burning his draft card at a protest, argued that although the law under which he was convicted was framed as a measure to protect the functioning of the selective service system, legislators' real purpose in passing the act was to punish those who, like O'Brien, engaged in protests against the Vietnam War and military.¹⁵¹ The Court, however, refused to investigate these purposes: "It is a familiar principle of constitutional law that this Court will not strike down an otherwise constitutional statute on the basis of an alleged illicit legislative motive."¹⁵² It went on to warn that "inquiries into congressional motives or purposes are a hazardous matter."¹⁵³ In any event, the Court held, a law struck down solely because of its unstated purposes might "be reenacted in its exact form" by a later legislature insisting those purposes are no longer motivating it.¹⁵⁴

Even where such non-speech-based justifications are genuine rather than a sham, rational basis may provide too low a hurdle when the government restricts a medium that is essential for a large category of speech. Consider the World Wide Web. Even if the government had a non-speech-based purpose for its limitation on

150. *United States v. O'Brien*, 391 U.S. 367 (1968).

151. *Id.* at 369-71.

152. *Id.* at 383.

153. *Id.*

154. *Id.* at 384.

Web use – such as concerns about the amount of electricity Web surfing requires or possible health effects caused by computers’ and smartphones’ emission of radiation – we might still insist that the effects of such a restriction on speech should carry significant weight in considering the permissibility of such a restriction, and that the government should have to do more than show its measure has a rational basis.

2. Linking Information-Gathering to First Amendment Purposes

How then can mapmakers and others who seek to capture large samples of the surrounding environment possibly have any variation of the claimed “right to document public space?” Mapping our environment – and other acts by which we “document public space” – may be a component of our First Amendment liberties, and First Amendment “freedom of speech” may, despite the language it uses, not merely be about protecting speech, but rather about protecting certain kinds of intellectual freedom more generally. Speech, after all, receives its special status under the Constitution to advance particular purposes, and it may be that some information-gathering activities with only a tenuous link to expression might receive protection from courts because they have a powerful link to underlying First Amendment purposes.

Such First Amendment purposes have been a central theme in some of the key cases extending our right to receive information to attempts by citizens to educate themselves about certain government activities. Indeed, such purposes appear to be central to the logic of the Supreme Court’s decision in *Richmond Newspapers v. Virginia*. There, the trial court had closed criminal proceedings to the public after the defendants requested such a measure and without objection from the prosecution.¹⁵⁵ News reporters, however, insisted that they and other members of the public nonetheless had a right of access and the Court agreed. In a plurality opinion, Chief Justice Burger made clear that “the First Amendment guarantees of speech and press . . . prohibit government from summarily closing courtroom doors which had long been open to the public at the time that Amendment was adopted.”¹⁵⁶ A concurring opinion by Justice Brennan agreed with this holding, but added that in deciding whether a particular

155. *Richmond Newspapers v. Virginia*, 448 U.S. 555 (1980).

156. *Id.* at 576.

government proceeding was open to the public, courts should inquire into whether that kind of proceeding was traditionally open to the public and whether openness would further the values of the proceeding.¹⁵⁷ The Court itself later adopted Brennan's test in *Press-Enter. Co. v. Superior Court* ("*Press Enterprise II*"). It held that whether the First Amendment assures access to a government proceeding depends on (1) "whether the place and process have historically been open to the press and general public" and (2) "whether public access plays a significant positive role in the functioning of the particular process in question."¹⁵⁸

This holding is, at first glance, at odds with the general rule that First Amendment speech protection covers listeners *only* when they are serving as the audience for a speaker or a disseminator of knowledge that is aiming to reach them. As noted above, the judge, prosecution, and defense did not wish to open their court case to the press and general public. Nor was it simply the speech in the trial that the press and general public were granted a First Amendment right to hear or read. They were not, after all, simply given the right to read a transcript, or listen to an audiotape, of the trial. They were granted a right to observe the various events that unfolded as it took place, including the facial expressions, body language, and demeanor of the parties and witnesses, the attentiveness they showed during various parts of the trials, and the order in which they testified. By opening courtroom doors to the public, the First Amendment secured a right not only to listen to (possibly unwilling) speakers, but also to observe a significant amount of conduct that was not speech at all. Why, in this case, was the Court willing to recognize a First Amendment independent information-gathering right of a kind that it had refused to recognize anywhere else?

The most likely answer, I have argued elsewhere,¹⁵⁹ is that where information-gathering cannot be closely linked to First Amendment speech, it may receive protection when it is closely linked to First Amendment purposes, such as the observation of a criminal court case. Viewing a criminal trial, as courts have made clear, promotes one of the central purposes of First Amendment law, which is to let citizens observe and evaluate the coercive

157. *Id.* at 589-90 (Brennan, J., concurring).

158. *Press-Enter. Co. v. Superior Court*, 478 U.S. 1, 8 (1986).

159. See Marc Jonathan Blitz, *Constitutional Safeguards for Silent Experiments in Living: Libraries, the Right to Read, and a First Amendment Theory for an Unaccompanied Right to Receive Information*, 74 UMKC L. Rev. 799, 804-07, 820-34 (2006).

machinery of their government in action.¹⁶⁰ As Alexander Meiklejohn, Robert Bork, and other scholars have emphasized, one of the central purposes of the First Amendment – and in the view of some of these writers, its only purpose – is to provide citizens with the space they need to engage in deliberations, and obtain information, necessary for them to engage in democratic self-governance.¹⁶¹ Thus, in Meiklejohn’s words, the First Amendment protects “those activities of thought and communication by which we ‘govern.’ It is concerned, not with a private right, but with a public power, a governmental responsibility.”¹⁶² As Bork writes, representative democracy “would be meaningless without freedom to discuss government and its policies” and freedom of political speech is thus essential, and he argues, the only kind of speech protection that can be justified on grounds that do not apply with equal force to freedom of significant non-speech conduct.¹⁶³ As I have noted earlier, an emphasis on this account of freedom of speech has been prominent in court cases on access to trials, as well as more recent cases on video recording of police conduct. In *Richmond Newspapers*, Justice Burger emphasized that the “expressly guaranteed freedoms” of speech, press, assembly, and to petition for a redress of grievances “share a common core purpose of assuring freedom of communication on matters relating to the functioning of government.”¹⁶⁴ And recognition of this First Amendment purpose, wrote Burger, “pervades the centuries-old history of open trials.”¹⁶⁵

As I have already noted, the Seventh Circuit emphasized similar First Amendment purposes (and history) in *Alvarez*, where it stressed that 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.”¹⁶⁶ Such a commitment to such purposes, it found, would be difficult to square with a law which, by barring the recording of police actions, “interfere[d] with the gathering and

160. See, e.g., *Richmond Newspapers*, 448 U.S. at 575.

161. See Robert H. Bork, *Neutral Principles and Some First Amendment Problems*, 47 Ind. L. J. 1, 22-23, 25-26 (1971); Alexander Meiklejohn, *The First Amendment is an Absolute*, 1961 Sup. Ct. Rev. 245, 255.

162. Meiklejohn, *supra* note 162, at 255.

163. Bork, *supra* note 162, at 23.

164. *Richmond Newspapers v. Virginia*, 448 U.S. 555, 575 (1980).

165. *Id.*

166. *American Civil Liberties Union v. Alvarez*, 679 F.3d 583, 599 (7th Cir. 2012).

dissemination of information about government officials performing their duties in public.”¹⁶⁷ In *Glik v. Cunniffe*, for example, the First Circuit likewise found the tradition of public access *Richmond Newspapers* had established for trials itself applied to “[t]he filming of government officials engaged in their duties in a public place, including police officers performing their responsibilities.”¹⁶⁸ Other cases, including those cited in *Glik*, likewise stress the importance of information-gathering to public debates about public affairs. In *Smith v. Cumming*, for example, the Eleventh Circuit Court of Appeals 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 that this includes a right to “photograph or videotape police conduct.”¹⁶⁹ In *Robinson v. Fetterman*, another federal court found that “[t]he activities of the police, like those of other public officials, are subject to public scrutiny,” and under the First Amendment, fair game for video recording.¹⁷⁰

Cases such as these, and the *Richmond Newspapers* precedent they rely upon, might be thought to provide all of the rights to information that individuals deserve or need. First, limiting the right to receive to acts of, or about government, arguably places a much clearer limit on the right to receive information than one would have if citizens and corporations had a right to gather all images of public interest that can be seen, and obtained, from a public forum. When the *Richmond Newspapers* inquiry is focused on a particular government proceeding or actor, courts have some sense of how to go about inquiring whether there is a particular tradition and value of openness. When the inquiry is about criminal trials, for example, courts can ask whether such trials were traditionally open to interested members of the public, and whether such openness supports the mission of the courtroom. When it is about police encounters, courts can likewise ask whether police officials have traditionally had a right to exclude bystanders from watching their actions on a public street, and whether observations by onlookers interfere with police officers’

167. *Id.* at 600.

168. *Glik v. Cunniffe*, 655 F.3d 78, 82 (1st Cir. 2011).

169. *Smith v. City of Cumming*, 212 F.3d 1332, 1333 (11th Cir. 2000). As previously noted, however, at least one court has distinguished protected video recordings from audio recordings of unsuspecting public servants. *See Matheny v. County of Allegheny, Pa.*, 2010 WL 1007859, at *9 (W.D. Pa. 2010).

170. *Robinson v. Fetterman*, 378 F. Supp. 2d 534, 541 (E.D. Pa. 2005).

ability to do their jobs, or instead assure that these jobs are done properly and ethically. It is less clear how courts would analyze the traditions and values at stake when cameras are aimed not at a particular encounter with government, but indiscriminately at large swaths of public space.

There is a second reason why it arguably makes sense to confine rights to access to government proceedings and government actors. When citizens video-record public officials performing government work, they do not risk intrusion on the privacy interests that are shielded, for example, by Fourth Amendment search and seizure law or other privacy interests protected by the Bill of Rights. Such rights can be invoked by citizens against government abuse, not by government actors themselves. This is because, as Joseph Raz writes, unlike “corporations and voluntary associations,” which may have “independent interests,” “political authorities . . . do not have a legitimate interest of their own” but must pursue only the interests of their subjects.¹⁷¹ By contrast, cameras aimed at public spaces where private citizens congregate and go about their business risk causing the kind of embarrassment that certain Google Street photos have caused when they captured individual actors unaware that their photo was being taken and added to a searchable dynamic map.

Of course, there is a substantial line-drawing challenge that faces us if we try to confine the right to receive information to information on “matters of public interest”: deciding what counts as being of “public interest.” For some citizens, after all, it is only the events that occur in a police encounter or public protest that are central to informing public deliberation but numerous other features of the world. A citizen may discover that he is most interested in lobbying not about the machinery of justice in police investigations or trials, but rather about the effects that a particular dam has on an endangered species population, or the extent to which a school or business design accommodates individuals with disabilities, or the ways that the design of a city is conducive to a vibrant street life, characterized by pedestrian traffic. Indeed, it is hard for any judge or other official to predict in advance what information a citizen will find central to their own political decision-making – and presumptuous, perhaps, for them to tell a citizen that what he or she believes is an important topic of public discussion cannot be a “matter of public interest.” It was largely for

171. Joseph Raz, *The Morality of Freedom* 5 (1986).

this reason that Alexander Meiklejohn and Robert Bork both concluded that limiting the First Amendment protection to “political” or self-governance enhancing speech did not really limit it very much at all.¹⁷²

C. *Grounding Rights to Information-Gathering in a (Modernized) Press Clause*

One very promising response to each of the line-drawing difficulties is offered by Barry McDonald’s proposal for information-gathering rights.¹⁷³ McDonald expressed concern about the previously discussed gap between information-gathering and speech and the possible disconnect between information-gathering that is undertaken only to satisfy individual curiosity and that which generates material for public reflection and democratic deliberation.

First, he notes that “information-gathering frequently consists of *non-expressive* conduct that bears a more attenuated link to acts of *expression* than other forms of non-expressive conduct accorded First Amendment protection.”¹⁷⁴ An important question then, is how one identifies those information-gathering activities where such a link is strong enough. Ideally, writes McDonald, courts could “require that ‘qualifying’ information be sought for *the purpose* of disseminating it to the public, and not just for individual consumption or dissemination to a limited audience selected for personal reasons.”¹⁷⁵ Thus, to use the language of the Seventh Circuit in *Alvarez*, it is important that someone not only use a technology or “instrument” of communication, such as a video camera, but that they use it for the purpose of generating public speech and not for other purposes the technology may be equally suited for (such as generating films for purely personal viewing).¹⁷⁶

Second, he insists not only that the information-gathering be linked to speech, but that it be linked to a core “societal purpose” that courts have found in the First Amendment – namely, the purpose of “maintaining a sufficient flow of information to the public about matters of social concern in order to foster our system

172. See Bork, *supra* note 162, at 27-28; Meiklejohn, *supra* note 162, at 258-59.

173. See generally McDonald, *supra* note 29.

174. See *id.* at 256.

175. See *id.* at 348.

176. *American Civil Liberties Union v. Alvarez*, 679 F.3d 583, 596 (7th Cir. 2012).

of informed self-governance.”¹⁷⁷ First Amendment speech rights, as McDonald recognizes, have other purposes, such as the furthering of “*individual*” interests in expressing oneself or receiving another’s expression.”¹⁷⁸ Such individual interests, he says, are not the kind of interests that can justify a freestanding right to receive information.¹⁷⁹ This is because the recognition of those rights, in his view, requires a significant sacrifice for society: “Whenever one is granted a ‘right’ or ‘freedom’ to engage in certain conduct, other members of society incur a corresponding obligation to tolerate that conduct,”¹⁸⁰ and this is as true of a First Amendment information-gathering right as it is of any constitutional right or freedom. There are, thus, many “potential conflicts between claims of a right to gather information and countervailing legally-recognized interests.”¹⁸¹

As discussed earlier, neither of these litmus tests for a valid right to receive information is free of potential problems. McDonald is aware of the challenges of identifying situations where information-gathering is both (i) genuinely meant to be the first step in public speech and (ii) of the type that furthers “societal interests” underlying the First Amendment rather than the “individual interests.” As he notes, for example, there are challenges in discerning the intentions of a person who wishes to explore a particular setting, or investigate a particular facet of public affairs, in order to contribute to public debate, rather than simply to satisfy their own curiosity.¹⁸² Similarly, there are difficult challenges in deciding on a case-by-case basis what kind of information is “a matter of public concern” since simply deferring to individuals’ own answers to this question would threaten to create an “endless right” allowing individuals to “presumably be entitled to challenge any law or government action inhibiting access to it.”¹⁸³ But McDonald observes that judge-made answers are not simple either since the Supreme Court “has suggested fairly amorphous standards for identifying speech on matters of public concern” leaving courts with significant “definitional challenges.”¹⁸⁴

177. McDonald, *supra* note 29, at 251.

178. *Id.*

179. *Id.* at 266.

180. *Id.*

181. *Id.*

182. *Id.* at 351-53.

183. *Id.* at 343.

184. *Id.* at 346.

The crux of McDonald's solution is to suggest that instead of trying to tackle these questions on a case-by-case basis, courts should use a proxy for making these categorizations. More specifically, he argues, First Amendment information-gathering protection should attach first and foremost to individual information-gathering claims, but also to particular categories of organization or individuals – specifically, all those whom “society recognizes as performing legitimate and valuable information-gathering and dissemination functions today (whether news media or not).”¹⁸⁵ The primary textual basis for such an information-gathering right is not the First Amendment's Speech Clause but rather its Press Clause. And while the paradigmatic organization of this sort is a news or media organization, McDonald argues that there are others who fit this description in the modern era: “In today's information society . . . academic and scientific researchers, non-governmental organizations such as think tanks and related public policy groups, and other information-oriented enterprises are playing increasingly important roles in conveying information to the public.”¹⁸⁶

What is promising about this selectively-endowed right to receive information is that it solves a number of major concerns about information-gathering rights – all with a single conceptual move. By *limiting* the right *only* to news organizations and those who have come to play analogous “information-gathering and dissemination functions,” McDonald addresses two of the difficulties discussed earlier. First, he links this right, which often protects non-speech detective work done by investigative reporters and researchers, to a textual anchor within the First Amendment, namely the Press Clause. Second, he helps resolve the thorny challenges of identifying and extending protection *only* to detective work of this sort that is meant to set the stage for public reporting or speech, and for educating Americans about matters of public concerns (rather than private or personal data). He does so by extending the right to organization or individuals whose mission or role *commits* them to educating the public about matters of importance to the community. To be sure, this move does not immediately dissolve all definitional difficulties. Courts must still decide what kinds of organizations and individuals have such a mission or role. But it is probably easier to make such determinations about entities with defined roles and organizational

185. *Id.* at 257.

186. *Id.* at 256.

missions than it is to make such determinations about each of the myriad possible instances of in which someone might claim a right to gather information.

It is not clear how likely the Supreme Court would give the Press Clause independent force in this way. The Court's jurisprudence itself has sent mixed and confusing signals about how it understands the constitutional guarantee of press freedoms. In its most well-known press cases in the past four decades, it has rejected newspapers' demands for special privileges or access to government information. In the 1972 case of *Branzburg v. Hayes*, for example, it rejected journalists' claims that the First Amendment shielded them against grand jury subpoenas requiring them respond to questions about confidential sources.¹⁸⁷ In a series of cases decided in the subsequent six years – *Pell v. Procunier*,¹⁸⁸ *Saxbe v. Washington Post Co.*,¹⁸⁹ and *Houchins v. KQED*¹⁹⁰ it rejected attempts by journalists to interview specific prisoners. “Newsmen,” it proclaimed in each of these cases, “have no constitutional right of access to prisons or their inmates beyond that afforded the general public.”¹⁹¹ And in *Cohen v. Cowles Media*, decided in 1991, it once again refused to find that the Press Clause provided the press with any First Amendment protection beyond that which the Speech Clause provides to the general public.¹⁹² The newspaper had claimed that the First Amendment shielded it from a promissory estoppel suit when it published a news source's name in a story where the newspaper's editors judged it relevant despite a promise of anonymity made by the paper's journalists to the source.¹⁹³ The Court, however, refused to find that the First Amendment immunized it against civil claims of that sort. “[E]nforcement of such general laws against the press,” it declared, “is not subject to stricter scrutiny than would be applied to enforcement against other persons or organizations.”¹⁹⁴

At the same time, in the most of these cases, the Court has strongly affirmed that, underlying the First Amendment's Press Clause is a commitment to assure that a vigorous press can

187. *Branzburg v. Hayes*, 408 U.S. 665, 707 (1972).

188. *Pell v. Procunier*, 417 U.S. 817 (1974).

189. *Saxbe v. Washington Post Co.*, 417 U.S. 843 (1974).

190. *Houchins v. KQED*, 438 U.S. 1 (1978).

191. *Pell v. Procunier*, 417 U.S. 817, 834 (1974). *See also Saxbe v. Washington Post Co.*, 417 U.S. 843, 850 (1974); *Houchins v. KQED*, 438 U.S. 1, 11 (1978) (both quoting this language from *Pell*).

192. *Cohen v. Cowles Media*, 501 U.S. 663, 670 (1991).

193. *Id.* at 665-67.

194. *Id.* at 670.

uncover, and share with the public, important information about government affairs. *Branzburg v. Hayes*, as I noted in the introduction, emphasized that “newsgathering” is not “without its First Amendment protections” and that “without some protection for seeking out the news, freedom of the press could be eviscerated.”¹⁹⁵ In each of the cases on prison conditions, the Court continued to celebrate press freedom in dicta even as it rejected the journalists’ insistence on greater access to prisoners in its holdings. In *Pell v. Procunier*, for example, it repeated language from prior cases stressing that the Press Clause “assures the maintenance of our political system and an open society,”¹⁹⁶ and that it secures “the paramount public interest in a free flow of information to the people concerning public officials.”¹⁹⁷ In *Houchins v. KQED*, it declared that the press “act[s] as the ‘eyes and ears’ of the public” and has served that function “since the beginning of the Republic.”¹⁹⁸

Certain justices have, in dissents or other writings, made this point even more emphatically. Justice Stewart, for example, wrote in an essay that unlike most provisions in the Bill of Rights, such as freedom of speech or religion, which “protect specific liberties or specific rights of individuals[,] . . . the Free Press Clause extends protection to an institution.”¹⁹⁹ Justice Powell likewise emphasized in his dissent in *Saxbe v. Washington* the role that the press plays as the “means by which the people receive that free flow of information and ideas essential to intelligent self-government.”²⁰⁰ He found that “no individual can obtain for himself the information needed for the intelligent discharge of his political responsibilities” and that “[f]or most citizens[,] the prospect of personal familiarity with newsworthy events is hopelessly unrealistic.”²⁰¹ So their only hope of obtaining an account of governmental activities from someone other than the government itself is the press, who, as “an agent of the public” identifies newsworthy stories and brings them to publications or TV screens.²⁰² It is this conception of the press and of press rights that

195. *Branzburg v. Hayes*, 408 U.S. 665, 681, 707 (1972).

196. *Pell v. Procunier*, 417 U.S. 817, 832 (1974) (citing *Time, Inc. v. Hill*, 385 U.S. 374 (1967)).

197. *Id.* (citing *Garrison v. Louisiana*, 379 U.S. 64 (1964)).

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

199. Potter Stewart, 26 Hastings L.J. 631, 633 (1974-75).

200. *Saxbe v. Washington Post Co.*, 417 U.S. 843, 863 (1974) (Powell, J., dissenting).

201. *Id.*

202. *Id.*

McDonald's approach builds, and elaborates upon by adding to the types of informational intermediaries that might receive special information-gathering rights.

This approach provides one conceivable basis on which those who create digital maps, supplemented with vivid interactive images, might receive First Amendment rights to document public space. Like news organizations, mapmakers provide information to citizens that they cannot obtain for themselves. Indeed, the companies that create computer generated maps and virtual globes of the twenty-first century are, in some respects, even more likely to act as the "eyes" if not the "ears" of the public. They do not merely provide citizens with written accounts of the public world they see, but digitally *recreate* that world for citizens to see and explore for themselves. The information-gathering they undertake when they capture detailed images of landscapes across the globe sets the stage for other further information-gathering by citizens themselves. Rather than simply being an audience for the discoveries uncovered by a journalist's investigative efforts, users of Google Earth and other mapping services can – and do – conduct impressive detective work themselves. Academic researchers using Google Earth, for example, have found ancient fishing traps in Wales,²⁰³ discovered new caves and fossil sites in Africa (one of which turned out to be skeletal remains of a previously unknown hominid species),²⁰⁴ and revealed the site of ancient Roman villas in Italy.²⁰⁵

This does not mean it is a foregone conclusion that mapmakers would qualify for the Press-based information-gathering rights of the kind McDonald proposes. While they certainly intend to disseminate the images they capture, it is not obvious that all, or even most of these images, involve matters of public concern. When Google, Microsoft, and Apple aim to create comprehensive maps and interactive simulations of the earth's surface, they are not in the business of making judgments about the public importance of each image. In fact, in many circumstances, they are in a poor position to judge whether members of the public will find it important or how viewers will utilize it. Moreover, the fact that

203. *Virtual Exploration: 14 Amazing Google Earth Finds*, WebEcoist, <http://webecoist.momtastic.com/2010/04/26/virtual-exploration-14-amazing-google-earth-finds/> (last visited Nov. 8, 2012).

204. *Id.*

205. *Five Mysteries Discovered by Google Earth*, All That is Interesting, <http://all-that-is-interesting.com/five-mysteries-uncovered-by-google-earth#more-1124> (Dec. 1, 2011).

mapping companies are profit-oriented entities with responsibility to investors differentiates them from the researchers in public policy groups, think tanks, and other new information intermediaries that McDonald proposes adding to the list of those receiving press rights.²⁰⁶

III. RESURRECTING (AN AUTONOMY-PROMOTING) RIGHT TO OBSERVE – AND KEEPING IT WITHIN LIMITS

A. *How Mapmaking Promotes the “Individual Interests” Underlying the First Amendment*

Although it is valuable to ask if mapmakers should have press freedom rights that allow them to serve the “societal interests” underlying the First Amendment’s free expression and free press guarantees, there is another account of independent rights of exploration and information-gathering which perhaps is a better fit. In short, as argued by McDonald, mapmakers and users are just as likely, if not more, to be pursuing the “individual interests” they have “in expressing oneself or receiving another’s expression.”²⁰⁷ They consult, explore, and in some cases, participate in the creation of virtual maps, not simply to enlighten the public about a particular issue of importance to the community or some large portion of it, but rather to find a specific destination for an individual visit, or in some cases, to understand the nature, or simply admire the beauty, of an environment that might be of interest to few others. And these interests may be the driving factor not only when individuals serve as consumers of maps, but also when they help shape their creation with information they have gathered themselves.

I argue that if and when the First Amendment protects such activity, it should do so with a right to receive information and ideas that protects the pursuit of these individual interests. Such an emphasis is not only necessary to advance central First Amendment purposes, but compatible both with limits on the scope of the right, and with the goal of leaving room for privacy rights that entail denying individuals some of the information they might seek.

Consider, first, the reasons people use the dynamic and immersive maps of the computer age. It is true, as I have noted above, that such maps disseminate information of extraordinary

206. McDonald, *supra* note 29, at 256.

207. *Id.* at 251.

value in understanding public affairs. This function of maps is clearly embodied by the activities of Google Earth Outreach, which “gives nonprofits and public benefit organizations the knowledge and resources they need to visualize their cause and tell their story in Google Earth & Maps.”²⁰⁸ Thus, Google Street View recently allied with the Amazonas Sustainable Foundation, a nonprofit organization dedicated to the conservation of the Amazon to bring individuals an immersive experience of an area that is generally – to assure its protection – closed to the public. As the organization has stated, the project gives them a way to “engage people all over the world in forest conservation.”²⁰⁹

But individuals also use maps to pursue more idiosyncratic interests that may be just as central to their own lives. Consider the library of images that Oliver Wendell Holmes, Sr. imagined wherein stereographic images from across the world would be gathered in a central repository in which people could simulate journey across the world from a seat in a library armchair.²¹⁰ This library, as I noted, has now been realized in dynamic mapping programs such as Google and Bing Maps. When people use such a library, they do not all simply seek out the most well-known landmarks of public space any more than patrons at a library of books all seek out the latest best sellers. Similar to individuals who visit a library in search of an obscure book on a particular area of interest, individuals who use dynamic maps sometimes wish to simulate a walk through a neighborhood or a hiking trail that is of immense personal interest to them, but holds little interest for others. As one close study of “geomapping” emphasizes, one of its primary benefits has been to provide the tools of interactive mapping to small audiences that might otherwise go unserved by the market:

[M]any mapping websites focu[s] on content that official map authors would never have bothered to map (for example walking paths, cycling network and so on). Moreover, these online products can target speciali[z]ed audiences that cover relatively small parts of a market, incapable of generating enough revenues to entice mainstream companies. The expression of this trend in

208. See Google Earth Outreach, <http://www.google.com/earth/outreach/index.html> (last visited Nov. 10, 2012).

209. Amazonas Sustainable Foundation, Google Earth Outreach, <http://www.google.com/earth/outreach/stories/fas.html> (last visited Nov. 10, 2012).

210. See Holmes, *supra* note 2.

Web mapping is local maps. Local maps generated by users are mainly aimed at small audiences interested in confined areas. The most common examples of such maps can usually be found in efforts to map university campuses like, Stanford University (ucomm.stanford.edu/cgi-bin/map/), MIT (openlayers.org/gallery/mit.html) or UCL (crf.casa.ucl.ac.uk/exploreMap.aspx). These kinds of maps are far more detailed than the maps provided by other sources (such as Google Maps or Bing Maps) but the number of users interested in them is relatively small.²¹¹

The value people find in exploring the public space thus goes far beyond simply being able to receive information from news reporters who are naturally focused on stories that will attract significant public attention. An individual might use Google or Bing Maps to revisit a neighborhood from a previous era of his life or some other “old haunt” of little significance to most other members of the public. Or instead of visiting scenery from the past, he may wish to scout a possible home for the future. She may wish to get a sense of what it feels like to look at the buildings, or foliage, of a town they are thinking of moving to, or going to school in. Or to immerse herself visually in a far-away locale that happens to provide the historical setting for an intriguing book that he has just read.

The focus on such individual interests becomes even more idiosyncratic when we turn from citizens’ role as consumers of maps to the role they play in creating them. As scholars have noted, in a world of user-generated content, individuals now frequently play more and more of a role in using computer programs to help generate the kind of content they once simply consumed.²¹² In modern times, media companies and other information intermediaries no longer act as the “eyes and ears” of the citizenry – they increasingly rely on citizens to serve as the “eyes and ears” of the press.²¹³ The same is true of dynamic maps. Google Maps are built not only with the information that Google collects on its own, or hires partner companies to obtain, but with

211. Vyron Antoniou, *User Generated Special Content: An Analysis of the Phenomenon and its Challenge for Mapping Agencies* 30 (Feb. 2011) (unpublished Ph.D. thesis, University College London), available at <http://discovery.ucl.ac.uk/1318053/>.

212. See, e.g., Debora Halbert, *Mass Culture and the Culture of the Masses: A Manifesto for User-Generated Rights*, 11 Vand. J. Ent. & Tech. L. 921 (2009).

213. See *supra* text accompanying note 199.

the help of those who use it. “[S]everal thousand user reports of problems with Google Maps that come in every day,”²¹⁴ and these may require edits to the mapping information and imagery available to the world at large.

Some mapping processes do not merely use information as a corrective but as the primary engine for map-making. Open Street Maps, for example, is an organization which, in its own words, “gives ordinary citizens the power and the tools to help create a high-quality feature-rich map of their country, their states, their communities and their neighborhoods.”²¹⁵ The maps it contains are generated not by company planes, boats, or cars, but rather by combining publicly-available or donated, geospatial data with the knowledge collected by thousands of contributors, who get it by using GPS devices to map their surroundings, or simply provide the benefit of what they know about familiar haunting grounds.²¹⁶ Wikimapia likewise relies on its users to provide the information it needs for an “open-content collaborative mapping project, aimed at marking all geographical objects in the world and providing a useful description of them.”²¹⁷ The same kind of crowd sourcing is used by a navigation and traffic-reporting application called Waze, which relies on drivers armed with smartphones for constantly updated information about traffic conditions and other useful geographic information. As one account puts it, “[t]aking a page from Wikipedia, services like Waze have marshaled armies of unpaid contributors and their GPS-equipped smartphone to map wide swaths of the world from scratch” and can rely on such crowd sourcing to assure that “[w]hen the landscape changes, so can the map.”²¹⁸ As Vyron Antoniou writes in the passage quoted above, user-generated maps also allow individuals to generate mapping details of interest to “specialized audiences” with little

214. Alexis C. Madrigal, *How Google Builds its Maps – and What it Means for the Future of Everything*, The Atlantic, <http://www.theatlantic.com/technology/archive/2012/09/how-google-builds-its-maps-and-what-it-means-for-the-future-of-everything/261913/> (Sept. 6, 2012).

215. *About Us*, OpenStreetMap US, <http://www.openstreetmap.us/board-members/> (last visited Nov. 11, 2012).

216. See *Beginner’s Guide to Open Street Map*, MapQuest, <http://developer.mapquest.com/web/products/open/tools/guide> (last visited Nov. 11, 2012).

217. See *About Wikimapia*, Wikimapia.org, http://wikimapia.org/docs/About_Wikimapia (last visited Nov. 11, 2012).

218. Marcus Wohlsen, *Crowd Sourced Cartography? There’s a Map for That*, USA Today, <http://www.usatoday.com/tech/products/story/2012-03-25/crowd-sourced-map-apps/53732276/1> (last updated Mar 23, 2012).

consumer power, and whose highly idiosyncratic focus may be of little interest to “official map authors.”²¹⁹

It is hard to see how all such users would be shielded by a press-based “information-gathering right” reserved exclusively for organizations or individuals playing a well-defined professional role. One might, perhaps, argue that a mapper could assert that right when he is acting as an agent of an organization such as OpenStreetMap, Wikimapia, or Waze. But this may well be impractical if individuals contribute to these projects not at particular times and places, but by setting their iPhones, smartphones, or other location-tracking devices to automatically share information as they move through the world. Alternatively, one could argue that the “freedom of the press” should extend not merely to professional journalists, but to “citizen journalists,” and by extension, to those who report geospatial information rather than just news. But some scholars have expressed worries about diluting press rights in this way,²²⁰ and, in any event, as this Article has already argued, it is in some ways too simple to merely identify mapmakers (whether they are large companies or free-lance individuals contributing to open source projects) as journalists, or public educators on governmental affairs and other topics of “public concern.”

Indeed, treating (and protecting) modern mapmakers only as geographic journalists would be, in important respects, incomplete. First, while such protection may reject laws that seek to bar geographic information that is plausibly related to public affairs, it is not clear whether this protection provides any First Amendment shield against other restrictions on what mapping company cameras may plausibly capture. Is it necessary, for example, for individuals to see a vivid, immersive photograph of a place rather than an abstract set of lines, shapes, and shadings to find their way to a polling station, courthouse, or other public buildings or to understand the impact of government construction on a wetlands area? Might the government thus be able to enact, without First Amendment challenge, laws that allow mapmakers to provide substantial information about the world but not accompanying pictures with vivid, three-dimensional perspectives? Might the

219. See Antoniou, *supra* note 212, at 30.

220. See, e.g., Sonja R. West, *Awakening the Press Clause*, 58 UCLA L. Rev. 1025, 1048-49, 1056 (2011) (arguing that “courts must give the term ‘press’ a meaningfully narrow definition” and that adoption of an overly broad interpretation will lead to the weakening or disappearance of constitutional press rights).

government be able to entirely bar depiction of certain sites that can plausibly be argued to have little to do with public affairs?

These governmental restrictions may not run afoul of a First Amendment right to receive information exclusively of “public concern,” particularly information that has importance for helping citizens “to see, examine, and be informed of their government.”²²¹ But such a conception of the right to receive is based upon an imperfect analogy. Mapmakers are, in key respects, less like journalists than they are like librarians. As Oliver Wendell Holmes recognized in his nineteenth-century analogy between collections of 3D images and book-filled libraries,²²² a massive collection of such images is best conceived not as a single narrative, but rather as a library filled with such narratives. Rather than tell a particular story or decide which events are newsworthy or important enough to deserve a headline, the creators of Google and Bing Maps essentially let users decide what is important to observe. Just as librarians assemble a vast collection of books and then let individual patrons chart their own path within it according to their own interests,²²³ mapmakers build a model of the physical and geographic environment and then let individuals navigate it according to their own needs or idiosyncratic interests.

Indeed, to a far greater extent than journalists, the information intermediaries who create modern maps often leave the user with the sense that she is directly interacting with the observing environment. This makes the experience of navigating a modern map seem much less like paradigmatic First Amendment activities than reading a newspaper or magazine report. Although we do need human intermediaries like Google and Apple to bring us virtual globes, we are supposed to feel – and often do feel – that these vivid virtual expeditions put us in direct contact with the environment itself. Where we might have once needed to read a

221. *American Civil Liberties Union v. Alvarez*, 679 F.3d 583, 599 (7th Cir. 2012).

222. See Holmes, *supra* note 2.

223. Marc Jonathan Blitz, *Constitutional Safeguards for Silent Experiments in Living: Libraries, the Right to Read, and a First Amendment Theory for an Unaccompanied Right to Receive Information*, 74 UMKC L. Rev. 799, 805-806 (2006). To be sure, librarians are not simply passive collectors of materials. Given space constraints as well as other considerations, they appropriately make significant decisions about what to include in their physical and electronic collections. See *id.* at 849-50, 863. These decisions, however, still typically allow each library patron the freedom to choose among innumerable paths through these reading materials according to the patron’s own specific interests. See *id.* at 831-34, 845-46.

journalist's powerfully written story or view a photojournalist's carefully captured images to see a faraway environment, we can now do so by simulating a flight across the globe and seeing it for ourselves, courtesy of the augmented vision provided to us by Google's army of cameras and computer programmers.²²⁴

Such immersive experience of faraway environments is deserving of First Amendment protection, even when the environment that an individual chooses to explore is one that has significance only to her or a limited number of people.²²⁵ First Amendment values are offended not only when citizens are metaphorically gagged by the government, but also when they are blindfolded by it and forced to view the world only through government-imposed lenses. This principle that individuals should not be confined to a government-filtered view of the world applies not only to the observation of political activities but also to exploratory activity more generally. For instance, if the government barred a modern-day Galileo from pointing a telescope towards the heavens and seeing them for himself, this would not restrict the speech that the First Amendment protects, but it would be a serious attack on the freedom of inquiry that the First Amendment is supposed to protect.²²⁶ To have such freedom of inquiry, he should have just as much of a right to see the universe by viewing

224. See, e.g., *A Virtual Sail Down the Amazon, Thanks to Google*, FoxNews.com, <http://www.foxnews.com/scitech/2012/03/22/virtual-tour-through-amazon-jungle-thanks-to-google/#ixzz26bNnev54> (Mar. 22, 2012) (reporting Google's announcement of a Google Earth Outreach project providing "users 360 degree access to the Rio Negro reserve portion of the Amazon River and the forests surrounding it").

225. See Eugene Volokh, *Freedom of Speech and Information Privacy: The Troubling Implications of a Right to Stop People From Talking About You*, 52 Stan. L. Rev. 1049, 1089, 1095 (2000) (arguing that "[u]nder the First Amendment, it's generally not the government's job to decide what subjects speakers and listeners should concern themselves with" and that "speech on matters of private concern" is entitled to "the same level of high constitutional protection" as speech on matters of public concern).

226. See Richard Delgado and David R. Millen, *God, Galileo, and Government: Toward Constitutional Protection for Scientific Inquiry*, 53 Wash. L. Rev. 349, 367-68 (1978) (drawing in part from the suppression of Galileo's views on the earth's place in the solar system to argue for First Amendment protection of scientific inquiry); see also Burt Neuborne, *Speech, Technology, and the Emergency of a Tricameral Media: You Can't Tell the Players Without a Scorecard*, 17 Hastings Comm. & Ent. L.J. 17, 20 n.14 (1994) (describing how Galileo's censure and death inspired John Milton's *Areopagetica*, the "first great statement of the free speech principle in the Anglo-American legal tradition").

it on Google Sky²²⁷ or on the panoramic map of the sky created by astronomers for the Sloan Digital Sky Survey,²²⁸ as he has to see it by simply looking upwards on a dark night. The same is true when the government, whether on its own initiative or that of powerful interest groups, seeks to cloak parts of the landscape to assure an individual cannot understand it. Such limits on such intellectual exploration violate not only the spirit of the First Amendment, but in some circumstances, the constitutional limits the First Amendment imposes on government censorship.

First Amendment jurists and scholars should aspire to resurrect a right to know about the environment that not only gives individuals a right to free themselves from wearing government-imposed lenses but from wearing *any* lenses at all. Individuals should be able to observe the environment with their own eyes rather than the computer-mediated perception made possible by Google, Apple, or other digital map-builders. This more individualistic conception of the right to receive information, to be sure, raises some of the concerns that led the Supreme Court to reject information-gathering rights altogether in *Zemel*, but First Amendment doctrine and case law suggest some solutions to such issues.

I will therefore propose a more individualistic conception of the right to receive information and argue that this right can be subject to principled doctrinal limits that prevent it from becoming an unqualified First Amendment right to engage in all manner of non-speech conduct or from undercutting the privacy rights that individuals rely upon to secure spaces in which they can escape public observation and judgment.

B. An Autonomy-Promoting Right of Intellectual Exploration – and its Limits

The cases I discussed above striking down restrictions on information-gathering have generally emphasized the ways in which such restrictions have threatened citizens' knowledge of

227. See *About Google Sky*, Google Sky, <http://www.google.com/sky/about.html> (last updated 2011) (explaining how one uses the feature to locate planets and constellations on a celestial map that simulates the night sky).

228. See Sloan Digital Sky Survey: Mapping the Universe, <http://www.sdss.org/> (last updated July 31, 2012) (describing the survey as having “obtained deep, multi-color images covering more than a quarter of the sky and created 3-dimensional maps containing more than 930,000 galaxies and more than 120,000 quasar”).

public affairs. Some of these aforementioned cases have hinted that such a connection to “matters of public concern” is a prerequisite for First Amendment protection of this type, and as I noted earlier, McDonald claims this is necessary to assure that information-gathering rights trump other important social interests only where the First Amendment needs are significant enough.

But such a stance undervalues the autonomy interest underlying the First Amendment. There is more to this interest than the emotional satisfaction, or sense of independence, that someone obtains from speaking her mind or fulfilling her curiosity. As Steven Heyman writes, a “central tenet of liberalism is that a boundary must be drawn between the outward realm of the state and the inward life of the individual.”²²⁹ And protecting the inward life of the individual sometimes requires securing a sphere of freedom in the physical world beyond an individual’s own mind so that he can develop and use his mental faculties, free from the control of the larger political community. Thus, the First Amendment speech clause exists not only to enable citizens’ control of their government, but also to assure that, in some spheres of life, each individual has a right to control his own thinking and understanding, free from that government (and the public it answers to). Speech, as the Supreme Court has said, drawing on such an account of First Amendment purposes, is often “the beginning of thought”: it not only gives expression to our thinking but often initiates it.²³⁰ Rodney A. Smolla similarly observes that “the preferred position of freedom of speech” over other liberties can be traced to the fact that “speech is connected to thought in a manner that other forms of gratification are not.”²³¹

Protecting speech is a key component of protecting our ability to think freely, but it is not the sole part. Our ability to understand and examine our world for ourselves depends not only on our ability to communicate free of government monitors and censors, but also to observe the world free from government-imposed blinders. One of the things that most starkly distinguishes free and modern societies from the belief-punishing authorities of previous centuries is their willingness to allow individuals to observe the world for themselves, instead of relying on inherited dogma. In a recent article, Neil Richards rightly points out that free speech will

229. Steven J. Heyman, *Spheres of Autonomy: Reforming Content Neutral Doctrine in First Amendment Jurisprudence*, 10 Wm. Mary Bill Rts. J. 647, 657 (2002).

230. *Ashcroft v. Free Speech Coalition*, 535 U.S. 234, 253 (2002).

231. Rodney A. Smolla, *Free Speech in an Open Society* 10-11 (1992).

be of little value without “the private intellectual processes by which speakers generate something interesting to say in the first place.”²³² But it is not merely intellectual processes that give us something interesting to say – it is also perceptual processes. We will not be able to construct works of imagination that draw upon our environment unless we are first able to interact with it.

Such an account of our crucial First Amendment interest in safeguarding mental autonomy, and its link to perception and exploration of the world, point us toward a conception of the right to receive information that is, in important respects, different from an information-gathering right focused entirely on the realm of public affairs. In the first place, it raises an alarm – and perhaps, justifies raising constitutional defenses – not only when government distorts, or puts barriers in the way of, our view of public affairs, but also when it blocks or deforms our perception in other ways. Indeed, the Supreme Court emphasized in *Va. State Board of Pharmacy v. Va. Citizens Consumer Council, Inc.*, that even where such other disruptions of information-flow seem to be of little consequence to the nation’s political affairs, they may be of tremendous consequence to a given individual.²³³ The current price of a given prescription drug, for example, may seem to be far from newsworthy or worthy of extended public discussion. But a poor person struggling to pay for medical treatment may have an interest in such price information that is “keen, if not keener by far, than his interest in the day’s most urgent political debate.”²³⁴ Although the Court went on to declare that we had a right to receive information only when it originated from a “willing speaker,”²³⁵ the logic of its argument in reaching this holding applies to other situations. The information that an individual wishes to obtain about her neighborhood or other public spaces around her may interest her more than “the day’s most urgent political debate,” and her best source of it may consist not simply of others’ speech, but the location information and imagery that others have been able to extract from the environment itself.

Second, this more individualistic conception of the right to receive information might not only better protect individuals’ use of maps for personal goals but also allow them to forego use of others’ images entirely and focus instead on observing the world

232. Neil Richards, *Intellectual Privacy*, 87 Tex. L. Rev. 387, 388 (2008).

233. *Va. State Bd. of Pharmacy v. Va. Citizens Consumer Council, Inc.*, 425 U.S. 748, 757 (1976).

234. *Id.* at 763.

235. *Id.* at 756.

for themselves. After all, it would be an odd First Amendment jurisprudence that assured individuals the right to observe a sketch of a plant or a comet's path in a scientific notebook or a library book – as the First Amendment certainly allows – but did not protect the individual who wished to *examine* the plant with her own eyes or *directly observe* the comet's movement in the sky. The same is arguably true of many simulated voyages in Google Earth or Bing Maps. If individuals travel the same ground, in reality, that they have travelled in the maps' virtual world, and can do so without threatening significant harm to the environment or its inhabitants, then why not assure they can do so? Such a right, would in some sense, give force to Justice Douglas's insistence on the right to learn about the world not just secondhand from others' accounts in books, newspapers, and conversations, but through direct perception of the environment.

How then do we fit this right of external observation back into a First Amendment jurisprudence that requires limits? How, in other words, do we avoid the absurd and unacceptable consequence that the Court warned against in *Zemel v. Rusk*: a broad right to know that allows citizens to immunize all manner of non-speech conduct from government regulation simply by emphasizing the perception and experience it makes possible?²³⁶ One approach, as I noted above, is to shield information-gathering *only* where we can be fairly confident that it is a necessary condition of speech that is political or otherwise aimed at educating citizens about matters of public importance. Thus, Barry McDonald claims that a Press-based right to information-gathering might leave the plaintiff in *Zemel* unprotected, since his desired exploration of Cuba was just as likely a means of satisfying his own curiosity as it was a prelude to any speech aimed at informing the wider public.

There are, however, other ways to answer *Zemel*'s challenge that do not simply set aside the more autonomy-promoting purposes of the First Amendment. The two possible elements for constructing such an answer consist of limiting the right to (i) information-gathering which takes place only in certain locations, namely in public spaces and (ii) information-gathering – with eyes or cameras – which, though it might raise the specter of informational harms such as privacy violations, does not present likely physical or economic harms of the kind that typically remove non-speech conduct from the realm of protected expression or

236. *Zemel v. Rusk*, 381 U.S. 1, 15 (1965).

thought. In *Zemel*, after all, the Court was most concerned that a broad right to receive information protects not only the acquisition of information, but the often consequential physical activity that goes with it – such as unrestricted, and possibly unsafe, travel in countries hostile to the United States. But it is not clear that such worries should bar citizens from observing or recording the world in places where they *already* have a right to be, such as streets, parks, or other “public forums” for discussion, and where the government restriction at such observing and recording are likely aimed at shutting off the “data flow” they make possible, and rather than the possible physical or economic conduct that might accompany that data flow.

Let me briefly consider how each of these limits might be elaborated. A location limit would likely draw on the First Amendment’s “public forum” doctrine. The public forum doctrine is essentially the Supreme Court’s answer to the problem that the right to free speech would be of little value if individuals had no space available from which to communicate. This is particularly true of large public gathering or protests as few individuals have private ownership of the kind of land that would be able to host such collective speech. Consequently, the Court has found that First Amendment speech rights entail a right to access certain kind of public property – namely, public forums. In *Hague v. Committee for Industrial Organization*, decided in 1939, the Court struck down an attempt by Jersey City Mayor Frank Hague to block labor protests in an urban park.²³⁷ A plurality opinion by Justice Roberts explained that parks and streets may not be closed off to speakers in that way, since they have been preserved “time out of mind for purposes of assembly, communicating thoughts between citizens, and discussing public questions.”²³⁸ Parks and streets, in other words, constitute public forums. They were places where the government could not restrict speech on the basis of its content except in very unusual circumstances (essentially when it could meet strict scrutiny). In subsequent cases, the Court has elaborated upon public forum doctrine and made clear that public forums may be created not just by tradition, but also by government designation.²³⁹

But if the right to speak freely requires spaces where it can be exercised, this might be true also of the right to gather information.

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

238. *Id.* at 515.

239. See *Perry Educ. Ass’n v. Perry Local Educator’s Ass’n*, 460 U.S. 37, 45 (1983).

Like all liberties, this one requires spheres or spaces where it is given sanctuary from the pressure of government regulations that will otherwise hem it in. It needs space (in this case, quite literally) where people exercise it without worry that the government will easily restrict or outlaw their First Amendment activity. The First Amendment itself provides a constitutional basis for this shielding. But just as protected speech still needs the public forum doctrine to provide it with a permissible platform in our shared public environment, so the right to know needs such a judicially-delineated territory. In an earlier work, I have proposed at least one such sanctuary for the right to know and receive information about the world: the public library.²⁴⁰ But libraries, while an invaluable haven for intellectual exploration, only contain information that individual writers have already provided; they do not allow individuals to obtain information directly from the natural and built environment. The place where individuals can exercise that variant of the right to know is, in large part, the same place the public forum doctrine already reserves as a haven for speakers: the public streets, squares and parks, and all places where individuals can freely travel through and explore their environment *without* having to first get permission to enter (or agree to silence themselves as a condition for entering)

But there are at least two transformations that must be made to existing public forum doctrine if it is to be repurposed to the ends of map-creators and other information-seekers. One is related to the aerial and satellite technology that is necessary to capture data about the geography of maps and supplement it with GPS technology. The space to which mapmakers must have access is 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. This cannot mean, of course, that government should be displaced from the important role it serves in controlling air traffic and assuring safety in the use of air and space technology. What it does mean is that when the government imposes a restriction that has the effect of entirely shutting down a certain form of data acquisition from the air, the First Amendment right to know may well be a part of the analysis in which courts engage to assess the permissibility of such a regulation.

240. See Marc Jonathan Blitz, *Constitutional Safeguards for Silent Experiments in Living: Libraries, the Right to Read, and a First Amendment Theory for an Unaccompanied Right to Receive Information*, 74 UMKC L. Rev. 799, 804-07, 820-34 (2006).

Another modification of existing public forum doctrine is crucial for acknowledging individuals' privacy interests, including those that are essential to the exercise of the right to receive information itself (as well as other First Amendment rights): the right to document public space should not be understood to entail a right to document *others' movements and activities in public space*, at least where those others are identifiable individuals. Thus, while map-creators and others might have a right to map the environment and even capture its structural features with Street View, this should not translate to a right to show where identifiable individuals go or what they do. Such a right to spy on people would strangely provide First Amendment cover to the destruction of anonymity necessary for intellectual freedom in modern societies. It is often such anonymity that gives individuals the freedom to explore unconventional ideas, or those at odds with the orthodoxy of their communities or the official positions of their employers or other institutions. If a person's school principal, employer, or religious authority could simply go to an information exchange, or electronic map, to monitor whether an individual conforms to communal principles even in extra-communal spaces, individuals would be subject to a regime far less free and protecting of First Amendment values than the one they currently find in complex societies. What then is left of the right to map, or to otherwise make observations, and capture images, from public space? Quite a lot. While companies would not have a First Amendment right to track and sell data concerning the personal movements and acts of others, they would still have a right (as would individuals) to map and provide details about the shared and stable features of public space such as the locations and appearance of streets and buildings as they appear on a map or from the vantage point of a random pedestrian. In fact, without constitutional protection for such observation and recording of public space, a worrisome asymmetry would arise between government actors who are empowered, and able, to comprehensively map our environment, and private citizens, who would not be. To be sure, the line between the documentation of public space which is protected, and that which is subject to restriction in order to protect crucial privacy interests, will not always be an easy line to draw, and for this reason, we need to draw on other areas of First Amendment law for additional guidance.

The other proposed limit on an independent right to receive information concerns the information-gathering methods used by

the person asserting protection. Courts and scholars have expressed concerns about the dangers and disruptions that might accompany information-gathering. But it is not clear why such concerns should weigh against providing First Amendment protection for information-gathering where those dangers or disruption are absent or unlikely. Critics of a right to receive have worried about the possibility that journalists or busybodies might seek entry into others' property or cause invasions of their privacy or that scientists' experiments may cause to animals or their environment. But some forms of information-gathering are more passive. Some people seeking information don't substantially alter the world to obtain it; they simply look at it or snap a photograph. Where the government restricts such visual exploration, there is often reason to suspect that it is doing so not to block individuals from causing harm as they seek knowledge (since there is little harm), but rather from the knowledge itself.

It was, perhaps, with such considerations in mind that Justice Douglas argued, in his dissent in *Zemel*, that finding a right in the First Amendment to "observe social, physical, political and other phenomena" would not open up a Pandora's Box of problems as the majority feared. Just as the government, though barred from censoring speech, could nonetheless regulate "speech brigaded with action" in order to regulate the action, so too, Douglas argued, could it regulate information-gathering "brigaded with action" where doing so was necessary to meet an important government interest. The courts' role under the First Amendment was thus not to strike down any government limit on information-gathering, but rather to assure that such a limit was justified by legitimate concerns about how the activity involved in that information-gathering might affect the public, and *not* by a desire on the part of the government to keep people in ignorance.

Douglas, in other words, envisioned a kind of analysis whereby courts might surgically separate the elements of expressive or information-gathering conduct that deserved strong constitutional protection, from the physical or economic conduct that didn't. In subsequent years, the Supreme Court has refined the legal tests it uses to do this in cases where speech is "brigaded with action." In *O'Brien v. United States*, which I discussed in Part II,²⁴¹ the Court provided a framework for courts assessing restrictions on "symbolic conduct," such as burning a flag or draft card to protest United States military policy. Courts, it said in *O'Brien* and later cases

241. See *supra* text accompanying notes 151-55.

elaborating upon it, must ask if the government law's effect on expression was *really* an incidental by-product of a law aimed at regulating non-speech conduct, or was rather aimed at "suppress[ing] free expression." Even if they concluded that the government was *not* targeting the speech component contained in a mixture of speech and action, they should still, said the *O'Brien* Court, allow such incidental restriction only where the government has a "substantial interest" and pursued it with means that did not restrict significantly more speech than necessary. In the years since *O'Brien*, the Supreme Court and lower courts have provided some alternative formulations of this test, most notably by suggesting that even justifiable restriction on potentially harmful or damaging expressive conduct should leave "ample alternative channels" for safer, less disruptive ways of expressing the same message.²⁴²

To be sure, the Court's majority in *Zemel* would hardly be comforted by the prospect that the *O'Brien* test could be used each time someone complained of being in a less-than-completely-unrestricted environment for gathering information. In a society of laws, everyone faces some restrictions on some activities, and could thus conceivably force an *O'Brien* analysis of *every* law. This, however, does not happen in speech cases and need not happen in information flow cases either. In speech cases, individuals must first show that the allegedly expressive conduct for which they demand First Amendment protection (under *O'Brien*) really *does* have an expressive component. The expressive nature of some such conduct – for example, street parades – has been long established by convention. In other cases, those who complain the government has targeted a message embodied in their non-speech conduct must (under the *Spence* test discussed earlier) show that there really was a message in that conduct, and it was likely to be understood by its audience. Such a test will not work for information-gathering activity, because those who are seeking to learn are not generally seeking to disseminate a particular message or meaning. They are rather seeking to find meaning, or knowledge, in the world.

242. See, e.g., *Heffron v. Int'l Soc'y for Krishna Consciousness, Inc.*, 452 U.S. 640 (1981) (holding that restrictions on the time, place, and manner of speech are permissible as long as "they are justified without reference to the content of the regulated speech, "serve a significant governmental interest," and "leave open ample alternative channels for communication of the information") (quoting *Virginia Pharmacy Bd. v. Virginia Citizens Consumer Council*, 425 U.S. 748, 771 (1976)).

There is, however, another criterion that might guide inquiries here. One can ask how likely the information-gathering activity in question is to generate physical or economic harm of a kind identified, and targeted by, the government restriction that limits it. As noted above, where people's information-gathering activity consists solely of glancing at or snapping a photograph of something that can be observed in the public space they are in and where the government's regulation is drafted to assure that the information captured by such a glance or photo does not get captured at all, then there is reason to subject the regulation to the kind of intermediate scrutiny embodied in *O'Brien*. In such a case, after all, it is hard to claim that someone is trying to cleverly attack a legitimate government safety measure by "cloth[ing]" it in the ugly "garb" of a restriction on "data flow."²⁴³ The government's attack in such a situation would likely be aimed at the data flow itself (and not simply some safety worry that happens to accompany it).

C. The Right to Avoid Being Mapped: Why First Amendment-Secured Information-Gathering Leaves Room for Privacy in Public

I have argued – agreeing in this respect with Justice Douglas in *Zemel* – that in dealing with cases of mapping or other image capture, courts should try to assure that a government restriction on information-gathering is aimed at real harms and *not* motivated by a desire on the part of the government to keep people in ignorance. But there are, of course, some situations where people feel they can avoid certain harms only by keeping others in ignorance of certain information. In fact, that is generally true when they are trying to safeguard their privacy. An individual has information privacy only when she can keep others from learning certain things about her.

Individuals who like to be able to retain their anonymity in the world might have much less of it if those who admire, stalk, or threaten them – or those who are merely curious – might not only easily find their address on the Internet, but might also, with the aid of dynamic maps, look upon their driveway, or at the backyard, or their front window sill, as though they were standing beside it. This is not merely a hypothetical concern; numerous Web sites provide easy links to the Google Earth images of celebrity homes and their surroundings, and at least one court has

243. *Zemel*, 381 U.S. at 16-17.

held that such maps count as protected speech under the First Amendment.²⁴⁴

Nor do such privacy concerns arise only near the home. Moments of our public lives that we don't expect to be shared with others might, if caught by a Google Street View camera or a nearby cellphone user for upload to Panoramio, be frozen and subject to multiple viewings. As I have previously written in analyzing public video surveillance in major cities, "[e]ven a video archive that includes only a person's movements through public settings would inevitably reveal much that he would rather not share with an audience, let alone have incorporated into official records."²⁴⁵ In fact, newspapers, blogs, and law review articles already highlight stories of Google Street View occasionally capturing precisely such intimate activity: two people sharing their first kiss on a grassy lawn,²⁴⁶ topless sunbathers,²⁴⁷ a strip club patron,²⁴⁸ and a man urinating in his front yard.²⁴⁹ Indeed, far from being hidden amid the numerous images on Google and replaced by regular updates, these images have often been retrieved and posted on websites on a regular basis by users aware that Google's cameras occasionally catch people in unguarded and embarrassing behavior.

It is thus easy to see why numerous legal commentators have called on Google and others who capture images in public to be subjected to stricter legal limits aimed at better securing people's privacy. Jacqueline Lipton, for example, has explored the potential

244. See, e.g., *Welton v. City of Los Angeles*, 556 P.2d 1119, 1121 (Cal. 1976) (holding that a map showing the "addresses and routes to movie star homes" is entitled to protection despite its commercial character).

245. Marc Jonathan Blitz, *Video Surveillance and the Constitution of Public Space: Fitting the Fourth Amendment to a World That Tracks Image and Identity*, 82 Tex. L. Rev. 1349, 1357-58 (2004).

246. See *Revealed: The Amorous Teenagers Caught in a Clinch by Google Street View Camera*, Mail Online, <http://www.dailymail.co.uk/news/article-1285296/Revealed-The-amorous-teenagers-caught-clinch-Google-Street-View-camera.html> (last updated June 9, 2010).

247. See Alex Turnbull, *Half Naked Sunbathing Girls on Google Street View*, Google Sightseeing, <http://googlesightseeing.com/2007/05/half-naked-sunbathing-girls-on-google-street-view/> (May 31, 2007).

248. See Joshua Fruhlinger, *The Scariest Google Street View Finds*, Switched, <http://www.switched.com/2007/06/01/the-scariest-google-street-view-finds/> (June 1, 2007).

249. See *Google Street View Lands Search Giant in Lawsuit over Urination Image*, Huffington Post, http://www.huffingtonpost.com/2012/03/01/google-street-view-lawsuit_n_1315197.html (last updated Mar. 2, 2012).

harms from the pervasive dissemination of video capture,²⁵⁰ and several works of legal scholarship have warned that privacy torts might have to be redefined to make Google and other camera-wielders in public more likely to be liable when they transform a visible momentary lapse from public norms into a permanent and widely-shared record of a person's failure.²⁵¹ As noted earlier, some legislators inside and outside of the United States have heeded such calls.²⁵²

Such attempts to bolster privacy are understandable – and, in some cases, justifiable. But it is one thing to acknowledge that privacy interests in restricting information may, at times, outweigh First Amendment interests in information-gathering. It is another to insist that these First Amendment interests do not exist. How then should the law strike a balance between our privacy interests and our right to document public space?

On the one hand, under the framework proposed above, government attempts to protect privacy will, and should, be subject to a First Amendment review that assures they do not unduly restrict information-gathering rights. Under the framework I have sketched above, government restrictions must at least overcome the *O'Brien* intermediate scrutiny test when they are designed to stop information from reaching people (and do not simply disrupt such data flow while attacking another harm). Privacy tort protections generally are designed precisely to keep someone from learning something about the world, whether by hearing it from others (as part of public disclosure of private facts) or by uncovering and observing the same (after intruding upon another person's seclusion).²⁵³

250. Jacqueline D. Lipton, *"We, the Paparazzi": Developing a Privacy Paradigm for Digital Video*, 95 Iowa L. Rev. 919, 926-30 (2010) (discussing the harms of pervasive video capture and dissemination and proposing a regulatory framework).

251. See Jana McGowen, *Comments: Your Boring Life, Now Available Online: Analyzing Google Street View and the Right to Privacy*, 16 Tex. Wesleyan L. Rev. 477, 478 (2010); Lauren H. Rakower, *Blurred Line: Zooming in on Google Street View and the Global Right to Privacy*, 37 Brook. J. Int'l L. 317, 320 (2011); Roger Geissler, *Private Eyes Watching You*, 63 Hasting L.J. 897, 923 (2012).

252. See *supra* text accompanying notes 15-19.

253. The tort of public disclosure subjects an individual to liability for disseminating private information about another person where that information is highly offensive to a reasonable person and not of legitimate concern to the public. The tort of intrusion upon seclusion, by contrast, protects a person not from being talked about, but rather from intentional interference with his interest in solitude. Even when the individual committing such an intrusion does not

On the other hand, the fact that privacy protection in public must generally be balanced against the First Amendment interests it threatens does not always mean that privacy will invariably lose such a contest. It will require much more space than available here to fully analyze how such balancing might work, but I would suggest the following proposal as a starting point: close up views of homes that reveal not only the permanent appearance of the house but the ephemera of day-to-day life contain substantially more information about individuals' personal behavior and should be allowed to be shielded from regular high-tech monitoring. Unlike landmarks and public buildings that can be viewed and admired for hours at a time by a pedestrian interested in architecture, a person's backyard and the social and private activities that take place there generally may not be observed at close range without violating social norms and arousing suspicion. Accordingly, Fourth Amendment case law allows government officers to observe the exterior of the home and its immediate surroundings from a public vantage point,²⁵⁴ but not generally to gather information, without a warrant, from inside the home or its curtilage.²⁵⁵ For all the complaints about Google Street View, the current rules that

share the private information he gains with others, he may still be liable if he intruded upon another's private space and the intrusion is of a kind highly offensive to a reasonable person. Restatement (Second) of Torts §§ 652B, 652D (1977).

254. See *California v. Ciraolo*, 476 U.S. 207, 213 (1986) ("The Fourth Amendment protection of the home has never been extended to require law enforcement officers to shield their eyes when passing by a home on public thoroughfares. Nor does the mere fact that an individual has taken measures to restrict some views of his activities preclude an officer's observations from a public vantage point where he has a right to be and which renders the activities clearly visible.").

255. See, e.g., *Kyllo v. United States*, 533 U.S. 27, 37 (2001) (noting that "in the home . . . all details are intimate details, because the entire area is held safe from prying government eyes"); *Oliver v. United States*, 466 U.S. 170, 180 (1984) ("[C]ourts have extended Fourth Amendment protection to the curtilage; and they have defined the curtilage . . . by reference to the factors that determine whether an individual reasonably may expect that an area immediately adjacent to the home will remain private."). It is true that the Court in *Ciraolo* and *Florida v. Riley* allowed the government to respectively observe a backyard garden and greenhouse respectively in the curtilage from public airspace, but in both these cases, the Court expressed concern about the possibility that observation of the curtilage might, in different circumstances, capture evidence of "intimate" activity. See *Ciraolo*, at 215 n.3; *Florida v. Riley*, 488 U.S. 445, 449-52 (1989) (permitting aerial observation of a greenhouse but stressing that "[a]s far as this record reveals, no intimate details connected with the use of the home or curtilage were observed").

Google has voluntarily adopted already strike what I would argue is a good balance between the freedom of mapmakers and users to observe the environment and the freedom of individuals to conduct their lives anonymously (including their expression and information-seeking). Google blurs the faces of pedestrians caught in Street View pictures and, while it captures images of private homes, offers to remove a detailed view of such a home when requested by the home's owner.

That is a starting point. A more significant description of the privacy interests that a right to map should allow room for should have at least two components: an individual interest (1) in avoiding identification and (2) in avoiding being tracked. Each of these proposed limits on the images, or other data, that Google and other companies can capture from an individual corresponds to limits that courts have already recognized, or at least hinted at in dicta, on the kinds of information that government may capture from its planes or satellites without running afoul of the Fourth Amendment bar of "unreasonable search[es]."

Consider first, the interest in avoiding being identifiable in state-mandated video footage captured by a plane or a drone. On the one hand, it might seem as though this limit is unreasonable and out of place in existing Fourth Amendment and privacy law. After all, under the existing framework for Fourth Amendment searches, the government engages in a search only when it invades some area where a person has "an expectation of privacy" that "society is prepared to recognize as reasonable."²⁵⁶ One might argue that once we go out in public, we have no expectation in the privacy of our appearance or other identifying features. Indeed, this is precisely what the Supreme Court appeared to say in *United States v. Dionisio*, where police sought to require an individual to give a "voice exemplar" to be played to a grand jury to help show a particular individual in a recorded conversation.²⁵⁷ After determining that this demand did not violate the defendant's right against self-incrimination, the Court went on to hold that it was not a search and that "[n]o person can have a reasonable expectation that others will not know the sound of his voice, any more than he can reasonably expect that his face will be a mystery to the

256. See *Katz v. United States*, 389 U.S. 347, 361 (1967) (Harlan, J., concurring) (stating that protection under Fourth Amendment requires persons to have exhibited an actual expectation of privacy and that the expectation be recognized as reasonable by society).

257. *United States v. Dionisio*, 410 U.S. 1, 3 (1973).

world.”²⁵⁸ This holding seems to indicate that we have no Fourth Amendment right against identification by government, and by extension, perhaps no right to claim our privacy has been violated if some non-government entity captures a picture of us that allows others to recognize us on a public street or on our front lawn.

But the legal precedent on this issue is a little more complicated than it seems from *Dionisio*’s dicta taken alone. First of all, while our face may not be a “mystery” to the entire world, it is unknown to a significant portion of it. This was something the Court acknowledged in *Watchtower Bible & Tract Soc. of New York, Inc., v. Village of Stratton*, in which it forbade a town from requiring solicitors to register before distributing literature door-to-door.²⁵⁹ The Court found that individuals have a right to retain their anonymity as they engage in First Amendment speech. Thus, “the fact that circulators revealed their *physical* identities” as they solicited customers does not mean that they gave up their rights to keep their names and other identifying information private.²⁶⁰

Second, it is one thing for a government official to see a person’s face; it is another to capture a permanent record of it that can be used to show to the world that a particular person was engaged in a particular act in a given place. In *Dow Chemical v. United States*, the Supreme Court acknowledged that the later kind of act might raise Fourth Amendment concerns.²⁶¹ While it held that there was no Fourth Amendment search involved when the government took pictures of a company plant suspected of environmental law violations with a “map-making camera” capable of significant magnification from a plane, it emphasized that the data captured by the government’s cameras were not “intimate details” such as a “class ring” or “secret documents” or any “identifiable human faces.”²⁶² This suggestion matches our intuition that there is something worrisome about the government filming or photographing people and then using these images not merely for the limited purpose of identifying a dangerous criminal or gathering evidence for a particular trial, but rather to embarrass citizens or effectively allow them to spy on each other. For example, in 2003, a British city, seeking to raise funds, sold footage

258. *Id.* at 14.

259. *Watchtower Bible & Tract Soc. of N. Y., Inc. v. Village of Stratton*, 536 U.S. 150 (2002).

260. *Id.* at 167.

261. 476 U.S. 227 (1986).

262. *Id.* at 239, n.5.

from its public video surveillance to the producer of a sensationalist film, entitled “Caught in the Act,” which then screened video that included scenes of identifiable individuals being victimized in muggings engaged in intimate acts.²⁶³ Scholars have understandably been concerned with the rise of such instances of public screenings of recognizable yet unaware individuals and the willingness of society to sacrifice individual privacy for other ends like security or public information campaigns.²⁶⁴ Such moments of public privacy are precisely the kind that Google Street View has occasionally caught in its cameras and led subjects and observers to feel constituted an unjustified invasion of their privacy.

For this reason, there is both precedent and strong moral intuition, on the side of the demand that our faces be blurred – or otherwise be made unidentifiable – by Google and others who capture images of public life on a massive scale. In fact, it may not be unreasonable to demand more than blurring of our faces. In some cases, individuals can be identified from a combination of a distinctive item of clothing, use of a distinctive car, briefcase, or other effect, and the location or other context of an activity. For example, where someone is captured on a front lawn and resembles, even blurred, the owner of that lawn, that person’s privacy may well be violated (perhaps repeatedly) by photos that reveal the individual there. It may thus be reasonable for government authorities to insist that creators of dynamic maps and globes go further than simply blurring faces and remove all identifying details or (where technologically feasible) edit people’s image out of a revealing scene altogether, particularly when it occurs on a private property where few other individuals are likely to be.

This is not to say that a First Amendment right to observe or see would simply vanish as soon as a person, or company, camera captured any image of an identifiable face. The people who inhabit and move through a given scene are a part of it, and few

263. Quentin Burrows, *Scowl Because You're on Candid Camera: Privacy and Video Surveillance*, 31 Val. U.E. Rev. 1079, 1100 (1997).

264. *Id.* at 1110 (finding “Caught in the Act” to be the “harshest realization” of the lack of privacy protection resulting from a European culture that “simply traded privacy for protection”). See also Laura K. Donohue, *Anglo-American Privacy and Surveillance*, 96 J. Crim. L. & Criminology 1059, 1187 (2006) (describing a similar incident in which surveillance footage caught of an individual wielding a knife in preparation for suicide was aired on national television and a photograph of the individual was released to broadcast the effectiveness of such cameras).

would maintain that a professional photographer like Henri Cartier Bresson or a video captured by a news program can be forced – consistent with First Amendment law – to systematically remove the faces of people they photograph in a public street. While individuals have a right against having such an identifiable image used for commercial promotion or profit, they do not have a right to simply forbid anyone from capturing their images anywhere in public. Indeed, such a right would have dramatic implications in an age where cellphone cameras are everywhere as law suits may arise any time a citizen with a camera wished to record a snapshot or short video from an urban exploration and happened to capture another person's image. If the right to observe and document public space includes any activity at all, it has to include such exploration of our own neighborhoods and public activities.

But that a First Amendment right protects such activities does not mean that it will *always* do so. Rather, as I have suggested above, our right to photograph or film our environment might understandably be subjected to *O'Brien*-style limits, where such limits are necessary to allow government to achieve substantial interests of a particular kind. In this case, government has substantial interests, and a long-standing traditional role, in assuring privacy against technologies or activities that cause a significant invasion of it, and just as they can prevent stalking or “peeping Tom” activity, might prevent identifiable photographs where picture-taking effort occurs on such a massive scale that frequent embarrassment or revelation of intimate details goes from becoming possible to becoming highly-likely. Moreover, the burden that such limits would impose upon a large-scale map-making or image capture venture such as those of Google or Microsoft is probably substantially lower than the burden such a limit would impose on free expression where it is imposed on each individual with a cellphone camera.

Besides shielding individuals' unguarded public moments by mandated blurring or other disguising technology, the First Amendment right to observe or document our public space should also protect our right against being tracked.²⁶⁵ Even when our image is not captured, even when we are simply represented by an abstract dot on a geographic grid, our privacy might still be violated – perhaps substantially – by technology that allows others to retrieve or build a detailed dossier of the places we have been over a particular day or week. Imagine, for example, location-

265. *United States v. Jones*, 132 S. Ct. 945 (2012).

tracking technology that can reveal a person's movements as he drives to the house of a friend (where his car remains parked for the entire night), then to a psychologist office, and then to an Alcoholics Anonymous meeting. Even a day's worth of activity with far less sensitive details might be one that he is understandably unwilling to share with the world. A long-stop at a company's offices, for example, may normally contain little embarrassing information, but if that stop happens to entail a job interview with a competitor of the company where a person now works, then it may not be information that one wants to share with one's employer or colleagues. As the Supreme Court has acknowledged on multiple occasions, people often have good reason to hide their participation in sometimes controversial associations, like the American Civil Liberties Union or National Rifle Association, from colleagues who may disapprove or even censure them for such activity.²⁶⁶ This was something that the DC Circuit emphasized when it found the government needed a warrant to install a GPS device on a car and track it for 28 days:

Repeated visits to a church, a gym, a bar, or a bookie tell a story not told by any single visit, as does one's not visiting any of these places over the course of a month. The sequence of a person's movements can reveal still more; a single trip to a Gynecologist's office tells little about a woman, but that trip followed a few weeks later by a visit to a baby supply store tells a different story. A person who knows all of another's travels can deduce whether he is a weekly church goer, a heavy drinker, a regular at the gym, an unfaithful husband, an outpatient receiving medical treatment, an associate of particular individuals or political groups—and not just one such fact about a person, but all such facts.²⁶⁷

While the Supreme Court's recent decision in *United States v. Jones* did not treat this long-term surveillance as decisive, finding instead a Fourth Amendment violation on the trespassory activity

266. See, e.g., *Nat'l Ass'n for the Advancement of Colored People v. Alabama*, 357 U.S. 449, 460-62 (1958) (holding that compelled disclosure of NAACP membership records violated First Amendment rights on the grounds that "[i]nviolability of privacy in group association may in many circumstances be indispensable to preservation of freedom of association, particularly where a group espouses dissident beliefs," and that such freedom is closely tied with freedom of speech).

267. *United States v. Maynard*, 615 F.3d 544, 562 (D.C. Cir. 2010).

the police had engaged in when they initially installed the GPS device on a private vehicle, five justices seemed strongly sympathetic to the D.C. Circuit's concerns.²⁶⁸

Of course, where a mapping program simply shows static images, it is unlikely to allow tracking of an individual unless it captures and uploads frequent images that show an identifiable individual as he moves from one activity to another. However, modern mapping programs do more than capture images. They are often dynamic and can now do with technology what magic did in *The Marauder's Map* in the fictional world of Harry Potter.²⁶⁹ As Rowling explains, the "truly remarkable thing" about this map of the school was that "there were tiny ink dots moving around it, each labeled with a name in miniscule writing." One reveals the headmaster "pacing his study," and another shows an instructor "bouncing around the trophy room."²⁷⁰ But such is the pace of twenty-first century technology that only a decade after this book's publication, such transformations in a map seem much less remarkable and, in fact, quite commonplace. Indeed, such a dynamic map is one of the many identities that can be taken on by an iPhone or Android phone, or an iPad or other tablet. When running a certain "App," such as Friend Mapper, FriendLocator, or GPSTracking, the iPhone can show me where my friends are on a map capable of depicting not merely a single school campus, but the entire world.

Where government takes measures intended to prevent such tracking without user consent and takes steps of the sort that Congress and the Federal Trade Commission did in investigating the location-tracking practices used by Apple and other companies to keep location records generated by smartphones, it is exercising a reasonable power to assure that a right to observe and gather information from the public does not privatize a license to surveil and track people for long stretches of time. Such activity may reveal information that might chill First Amendment speech and associational activity. It is worth emphasizing that such privacy concerns focus first and foremost on information about individuals,

268. See *United States v. Jones*, 132 S. Ct. 945, 964 (2012) (Alito, J., concurring) (rejecting the Court's application of the trespassory test and arguing that a Fourth Amendment violation occurred because long-term monitoring impinges on reasonable expectations of privacy); *Id.* at 955 (Sotomayor, J., concurring) (agreeing with Justice Alito that long-term monitoring impinges on reasonable expectations of privacy).

269. See J.K. Rowling, *Harry Potter and the Prisoner of Azkaban* 192-93 (1999).

270. *Id.*

not about the relatively permanent features of our public environment. While it may be reasonable for the government to prevent Google from collecting – and putting in permanent and searchable form – numerous details about individuals, it is another thing to bar Google or others from recording and allowing people to engage in mediated perception of streets, buildings, and features of the natural landscape they could explore physically if they had the time and resources.

To be sure, one can imagine a more restrictive privacy regime that forces Google and other map-providers to make even less information available or requires iPhone map companies to remove information about nearby businesses, landmarks, or campuses from their geolocation programs. As mentioned previously, Germany has instituted a regime of this sort, preventing Google from providing details of houses whose owners object. Certain states have considered legislation that would likewise prevent Google from posting an image of certain structures, such as schools or federal buildings, that might be of interest to possible attackers. Some might argue that individual privacy protection should cover not only an individual's movements, but also certain aspects of the physical architecture that surround them. We express our identity, their argument goes, not only in quirks we express in public and in the associations and commercial establishments we frequent, but also in the houses we choose to build, the cars or boats we purchase and leave visible on our property, and the equipment we place in a playground or the statue we display on a lawn.

At a certain point, however, such claims as to what should or should not remain publicly visible must have a limit. The exploration of visible space is a public resource of sorts and is not one that should be hoarded by others at a cost to individuals' freedom of exploration and information-gathering. A similar point has already been made, by a number of writers, about the availability of our cultural environment. As James Boyle argued, for example, long copyright terms allow rights-holders to "lock up almost all of twentieth-century culture" and empty the "public domain" where we find cultural raw materials for our own creative expression.²⁷¹ As a consequence, the vast majority of works in the Library of Congress' catalogue are effectively unavailable to most readers in the United States, creating a "lost culture" of films,

271. James Boyle, *The Public Domain: Enclosing the Commons of the Mind* 11 (2008)

books, and records.²⁷² A parallel concern arises about the library of information on our natural and built environment that map-makers provide to individuals interested in virtual exploration. By invoking privacy interests the same way that individuals and businesses wield intellectual property rights, third parties may block us from seeing not only the insides of buildings but also their external and visible structures, thereby thwarting our freedom to observe and gather information through our own faculties. Just as one architect objected to the brief depiction of a supposedly copyrighted courtyard in a film,²⁷³ camera-wielding individuals have been barred from taking photographs of private properties.²⁷⁴ This Article's argument has been that such a cloaking of the surrounding environment from observation threatens key First Amendment principles and should not be permitted unless it can overcome constitutional hurdles.

CONCLUSION

When Oliver Wendell Holmes marveled – over 150 years ago – at the possibility of a creating a massive library of 3D images, he was intrigued not only by the stunning records of experience that would be contained in those libraries but also what would be *absent* from them. As realistic and vivid as the stereoscopic images might be, they would ultimately only be images, stripped away from the physical reality they generated. As Holmes put it, to the creators, and patrons, of such a library, form would “henceforth be divorced from matter.” Transformed by the technological power of stereography, objects would “scale off” their “surface” and shed their “skin,” so that they could be brought to a centralized location for innumerable visitors to enjoy the benefit of close observation and admiration while being spared burdensome or threatening encounters with unfamiliar environments.

As it turns out, this aspect of modern image collection – their separation from the underlying physical landscape that is necessarily a subject of government control and regulation – helps lay the groundwork for a meaningful First Amendment right to intellectual exploration. If intellectual exploration *always* threatened the safety of the public, or interfered with the

272. *Id.* at 9.

273. Lawrence Lessig, *The Future of Ideas: The Fate of the Commons in a Connected World* 4 (2001).

274. See, e.g., *Porat v. Lincoln Towers Cmty. Ass'n*, No. 04 Civ. 3199, 2005 WL 646093, at *4 (S.D.N.Y. Mar. 21, 2005).

government's necessary role in assuring social order, then it could not be shielded from state control. To do so would deprive the state of the power to perform the security and ordering functions that are a crucial part of its role. But as Holmes' reflections show, intellectual exploration does not *always* take the individual into the government's functional territory. When such exploration merely involves observing or recording reality rather than changing it, as is true in much modern map-making, then the First Amendment should shield exploration of this kind from constitutional restriction – just as it generally shields words that lack the coercive effects or potential harms of action.