

# DE-CODING FREE SPEECH: A FIRST AMENDMENT THEORY FOR THE DIGITAL AGE

XIANGNONG WANG\*

For more than two decades, courts have embraced the rule that computer code is “speech” within the meaning of the First Amendment. While this principle has been celebrated by some, it should now be cause for great concern. In recent years, technology companies have relied on the doctrine that “code is speech” and other expansive theories of First Amendment coverage to claim sweeping constitutional protections for their commercial activities. If this trend continues, it will lead to consequences that are both dangerous and absurd.

This Article argues that the prevailing approach to First Amendment coverage for code is fundamentally misguided and must be abandoned. Such a capacious vision of First Amendment coverage for code is ill-suited to the realities of the modern world. Code flows through nearly all of our daily interactions. Adding a constitutional valence to every one of these activities would be a perilous proposition. It would give opportunistic litigants free rein to manipulate the First Amendment to insulate their private power from public accountability, and it would lead to a free speech jurisprudence that is unwieldy, incoherent, and unmoored from democratic values.

To avoid these outcomes, courts must reject abstract and categorical rules like “code is speech.” Instead, courts should adopt a framework for evaluating code that is grounded in the values that the First Amendment was meant to serve. This involves answering fundamental questions about what the First Amendment is for—and who it is for. In the coming years, as courts are called upon to shape the contours of regulation in the digital age, it will become all the more urgent to elucidate a First Amendment jurisprudence that actually makes sense for the modern world. Addressing these concerns is critical, not just for the future of governance, but for the future of free speech.

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## INTRODUCTION

Digital technologies hold an ever-greater sway over our society and institutions. Algorithms make second-by-second decisions that impact our lives in both important and mundane ways; information markets drive vast swaths of the modern economy; artificial intelligence and machine learning systems process countless bytes of data about the human experience. The corporations that develop, sell, and use these technologies have surpassed the industrial titans of the past to become the richest and most powerful private entities in the world. Companies like Facebook, Apple, Amazon, and Google rival even prominent nations in their influence over the economy, politics, popular culture, and social ordering. Modern society runs on code.

But despite this outsized impact, Silicon Valley has been moving fast and breaking things. In recent years, technology companies have faced mounting scrutiny over products and practices that have been criticized as unfair, discriminatory, exploitative, and anti-democratic.<sup>1</sup> Regulating technology companies and digital platforms has become a hallmark advocacy issue of political candidates, lawmakers, scholars, and civil society groups.<sup>2</sup> Although proposals to curb the influence of the

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1. See, e.g., JULIE E. COHEN, *BETWEEN TRUTH AND POWER* 86–89, 238–50 (2019) (describing the challenges that data-driven surveillance and intermediation pose to democracy and human rights); Lina M. Khan, *Amazon’s Antitrust Paradox*, 126 *YALE L.J.* 710 (2017); Solon Barocas & Andrew D. Selbst, *Big Data’s Disparate Impact*, 104 *CALIF. L. REV.* 671 (2016); Tracy Jan & Elizabeth Dwoskin, *Facebook Agrees to Overhaul Targeted Advertising System for Job, Housing and Loan Ads After Discrimination Complaints*, *WASH. POST* (Mar. 19, 2019), [https://www.washingtonpost.com/business/economy/facebook-agrees-to-dismantle-targeted-advertising-system-for-job-housing-and-loan-ads-after-discrimination-complaints/2019/03/19/7dc9b5fa-4983-11e9-b79a-961983b7e0cd\\_story.html](https://www.washingtonpost.com/business/economy/facebook-agrees-to-dismantle-targeted-advertising-system-for-job-housing-and-loan-ads-after-discrimination-complaints/2019/03/19/7dc9b5fa-4983-11e9-b79a-961983b7e0cd_story.html) [<https://perma.cc/P694-CTZK>].

2. See, e.g., Cat Zakrzewski, *Bipartisan Proposals in House Would Mean Major Changes for the Way Tech Giants Operate*, *WASH. POST* (June 11, 2021), <https://www.washingtonpost.com/technology/2021/06/11/antitrust-legislation-curbs->

technology industry abound, any meaningful government intervention is likely to run up against a formidable roadblock: the First Amendment.

Over the past few decades, just as software has eaten the world,<sup>3</sup> the First Amendment has threatened to eat the regulatory state. In recent years, commercial litigants from across a wide range of industries have attempted to use the First Amendment to shield their business practices from regulation by arguing that those activities are “speech” deserving of the highest constitutional protections.<sup>4</sup> This strategy has been profitable, as the Supreme Court and lower courts have exposed a growing number of workaday government regulations to exacting constitutional scrutiny.<sup>5</sup> As a result, the borders of the First Amendment—which scholars refer to as its “coverage”—have undergone a swift and alarming expansion.

Claims about First Amendment coverage have come to increasingly influence how, and even whether, the government is permitted to intervene in certain domains. This has invited what Frederick Schauer has termed First Amendment “opportunism,” in which litigants strategically raise free speech claims as a vehicle to vindicate their other, often deregulatory, interests.<sup>6</sup> The First Amendment thus has become a potent weapon for businesses to insulate their private power from political and legal control,

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silicon-valley [<https://perma.cc/9CFG-QMTM>]; Steve Lohr, *How Should Big Tech Be Reined In? Here Are 4 Prominent Ideas*, N.Y. TIMES (Aug. 20, 2019), <https://www.nytimes.com/2019/08/20/technology/big-tech-reined-in.html> [<https://perma.cc/2528-K7U8>]; Nicholas Thompson, *Tim Wu Explains Why He Thinks Facebook Should Be Broken Up*, WIRED (July 5, 2019, 7:00 AM), <https://www.wired.com/story/tim-wu-explains-why-facebook-broken-up> [<https://perma.cc/X2AH-SJBT>]; Sue Halpern, *Mark Zuckerberg, Elizabeth Warren, and the Case for Regulating Big Tech*, NEW YORKER (Apr. 11, 2019), <https://www.newyorker.com/tech/annals-of-technology/mark-zuckerberg-elizabeth-warren-and-the-case-for-regulating-big-tech> [<https://perma.cc/K5E2-3S4Z>].

3. See Marc Andreessen, *Why Software Is Eating the World*, WALL ST. J. (Aug. 20, 2011), <https://www.wsj.com/articles/SB10001424053111903480904576512250915629460>.

4. See, e.g., *Expressions Hair Design v. Schneiderman*, 137 S. Ct. 1144, 1150–51 (2017).

5. See, e.g., *id.* (holding that a prohibition on credit card surcharges “regulat[es] the communication of prices” and therefore regulates speech); *Sorrell v. IMS Health Inc.*, 564 U.S. 552, 563–71, 580 (2011) (invalidating a Vermont law that restricted the sale and disclosure of physician prescribing data and noting the “strong argument that prescriber-identifying information is speech”); *Citizens United v. Fed. Election Comm’n*, 558 U.S. 310, 339–66 (2010) (ruling that a “prohibition on corporate independent expenditures” is a “ban on speech”); *Billups v. City of Charleston*, 961 F.3d 673, 682–83 (4th Cir. 2020) (holding that a city’s mandatory licensing scheme for tour guides “undoubtedly burdens protected speech”); *United States v. Caronia*, 703 F.3d 149, 162–64 (2d Cir. 2012) (concluding that prosecuting individuals for off-label marketing of pharmaceuticals is a restriction on speech).

6. E.g., Frederick Schauer, *The Politics and Incentives of First Amendment Coverage*, 56 WM. & MARY L. REV. 1613, 1627–29 (2015).

prompting some judges and scholars to call it the New *Lochner*.<sup>7</sup> As lawmakers turn greater attention toward regulating software and digital technologies, the companies that create those products are likely to reach for the First Amendment to resist these efforts.<sup>8</sup>

In fact, technology companies are already advancing such arguments in court. For instance, Google has repeatedly argued that the search results it returns to users are its “opinion,” immune from antitrust and tort liability.<sup>9</sup> Apple has asserted that the First Amendment categorically prohibits the government from compelling it to create code with which it disagrees.<sup>10</sup> And, last year, when the American Civil Liberties Union (ACLU) sued the face recognition software company Clearview AI for violating Illinois privacy law, Clearview turned to prominent First Amendment litigator Floyd Abrams to mount its defense.<sup>11</sup> In each of these instances, technology companies broadly asserted that their activities were “speech” protected by the First Amendment.<sup>12</sup>

Expansive claims of First Amendment coverage for digital technologies, however, are not a new phenomenon. They have a foundation in established doctrine. Courts have long recognized that computer code and software possess expressive qualities, and the principle that code is “speech” has been called “well-settled” and “obvious.”<sup>13</sup>

7. See, e.g., *Sorrell*, 564 U.S. at 552, 591–92 (Breyer, J., dissenting); Jeremy K. Kessler, *The Early Years of First Amendment Lochnerism*, 116 COLUM. L. REV. 1915 (2016); Amanda Shanor, *The New Lochner*, 2016 WIS. L. REV. 133; Robert Post & Amanda Shanor, *Adam Smith’s First Amendment*, 128 HARV. L. REV. F. 165 (2015).

8. See COHEN, *supra* note 1, at 93–97 (detailing tech companies’ success in constitutionalizing data collection and processing activities); Amy Kapczynski, *The Law of Informational Capitalism*, 129 YALE L.J. 1460, 1508, 1510–12 (2020) (describing ways that courts and tech companies have shaped the First Amendment to insulate private corporations from democratic control).

9. See, e.g., *Kinderstart.com LLC v. Google, Inc.*, No. C 06-2067 (RS), 2006 WL 3246596, at \*13 (N.D. Cal. July 13, 2006) (“Google argues that a PageRank is an opinion and not a factual statement.”); *Search King Inc. v. Google Tech., Inc.*, No. CIV-02-1457-M, 2003 WL 21464568, at \*2–3 (W.D. Okla. May 27, 2003).

10. See Apple Inc.’s Motion to Vacate Order Compelling Apple Inc. to Assist Agents in Search, and Opposition to Government’s Motion to Compel Assistance at 32, *In re the Search of an Apple iPhone Seized During the Execution of a Search Warrant on a Black Lexus IS300, California License Plate 3KGD203*, No. 16-CM-00010-SP, 2016 WL 2771267 (C.D. Cal. Feb. 25, 2016) [hereinafter Apple’s Motion].

11. Kashmir Hill, *Facial Recognition Start-Up Mounts a First Amendment Defense*, N.Y. TIMES (Mar. 18, 2021), <https://www.nytimes.com/2020/08/11/technology/clearview-floyd-abrams.html> [https://perma.cc/L8Q8-KG74].

12. See *supra* notes 9–11 and accompanying text.

13. Kyle Langvardt, *The Doctrinal Toll of “Information as Speech,”* 47 LOY. U. CHI. L.J. 761, 775 (2016) (observing that “in the lower courts, it is well-settled law” that “the First Amendment is implicated *somehow* whenever the government attempts to regulate the flow of computer code”); Alison Dame-Boyle, *EFF at 25: Remembering the Case that Established Code as Speech*, ELEC. FRONTIER FOUND. (Apr. 16, 2015), <https://www.eff.org/deeplinks/2015/04/remembering-case-established-code-speech/>

Indeed, nearly every lower court to consider the issue over the last twenty-odd years has concluded that code presumptively warrants the protections of the First Amendment.<sup>14</sup>

To be sure, the idea that code is “speech” has a straightforward and intuitive appeal. Code is written in a computer language. It communicates information and conveys the ideas and expressions of a computer programmer. More than that, much of modern-day discourse occurs through code and software. Every email, TikTok video, tweet, and Zoom call is made possible through code. It is no surprise, then, that leading digital rights group the Electronic Frontier Foundation (EFF) has credited the code-as-speech doctrine with helping to “build the legal foundation for online rights.”<sup>15</sup>

But this doctrine, which once may have been cause for celebration, should now be cause for concern. While there is an attractive simplicity to a principle like “code is speech,” far-reaching First Amendment coverage for software has troubling implications for a society that runs on code. Consider the following scenarios:

- An AI-operated lawnmower runs over your foot. Can the company that sold you this lawnmower avoid legal liability by arguing that the defective code that caused your injury is its speech?
- An online recruiting service develops software that employs discriminatory practices. May the government, consistent with the First Amendment, compel that company to produce code that remedies this practice?
- A private defense contractor posts code on its website that can produce an untraceable firearm anywhere in the world. Is requiring that such munitions be licensed before they can be distributed a prior restraint on speech?

If we accept the rule that “code is speech,” traditional First Amendment analysis suggests that government intervention in each of these areas is likely to raise serious constitutional concerns. Yet to

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[<https://perma.cc/G96U-AXKU>] (remarking that it is “obvious that communication using programming languages is protected by the First Amendment”).

14. See, e.g., *Universal City Studios, Inc. v. Corley*, 273 F.3d 429, 449–50 (2d Cir. 2001) (“[C]omputer code conveying information is ‘speech’ within the meaning of the First Amendment.”); *Junger v. Daley*, 209 F.3d 481, 485 (6th Cir. 2000) (“[C]omputer source code . . . is protected by the First Amendment.”); *Bernstein v. U.S. Dep’t of Just.*, 176 F.3d 1132, 1141 (9th Cir.), *reh’g en banc granted and opinion withdrawn*, 192 F.3d 1308 (9th Cir. 1999) (concluding that code is entitled to First Amendment protections against prior restraints on speech); *Green v. U.S. Dep’t of Just.*, 392 F. Supp. 3d 68, 86 (D.D.C. 2019) (“Code is speech.”), *appeal docketed*, No. 21-5195 (D.C. Cir. Sept. 14, 2021) (Bloomberg Law Court Dockets).

15. Dame-Boyle, *supra* note 13.

conclude that these regulations might offend the First Amendment is a head-scratching and dangerous proposition.

Such a broad vision of First Amendment coverage for software will have profound consequences for the future of governance in the digital age. It threatens to make any manner of activity subject to the protections of the First Amendment simply because it operates through code. It empowers opportunistic litigants to resist sensible policies designed to protect the public from discriminatory practices, cybersecurity threats, privacy encroachments, concentrations of market power, and more. Even if challenges to these laws and regulations do not succeed, expansive First Amendment coverage for code shifts these vital decisions of public policy away from democratic deliberation and into the insular domain of constitutional litigation. The result will be a brittle and incoherent First Amendment jurisprudence. The cracks are already beginning to show.

In this Article, I challenge the prevailing approach to First Amendment coverage for computer code and software. I argue that the code-as-speech doctrine is fundamentally misguided and must be abandoned. While code undoubtedly possesses speech-like qualities, that alone is not sufficient to justify First Amendment coverage. Asking whether code is “speech” is posing the wrong question entirely. It makes no more sense than asking if words are “speech.” Whether the First Amendment extends to a set of words depends on how those words are used. That is why the First Amendment comes into play when the government regulates the content of a newspaper but not when it regulates the terms of a contract. Contracts and newspapers both use words, but the First Amendment’s protections only reach the latter.<sup>16</sup> This is because newspapers contribute to the robust public discourse that underwrites our democracy, while contracts do not. It is our social understanding of the vital role that newspapers play in our system of self-governance that gives newspapers their constitutional resonance—not the fact that newspapers use words. The same is true for code. The relevant inquiry, therefore, is not whether code “is speech” but whether an act that uses code furthers the democratic values the First Amendment was meant to serve.

I begin, in Part I, by describing the development of the code-as-speech doctrine. I explain how courts, when faced with the novel question of First Amendment coverage for computer code, struggled to understand the ways that code relates to the values of the First Amendment and created a seemingly sensible but ultimately brittle legal rule. In Part II, I discuss how technology companies rely on the principle that code is speech to

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16. See Frederick Schauer, *The Boundaries of the First Amendment: A Preliminary Exploration of Constitutional Salience*, 117 HARV. L. REV. 1765, 1768 (2004) (“Little case law and not much more commentary explain why the content-based restrictions of speech in . . . the Uniform Commercial Code . . . do not, at the least, present serious First Amendment issues.”).

advance sweeping First Amendment claims about code and software. I argue that troubling practical and doctrinal consequences will result if courts accept this expansive vision of First Amendment coverage. In Part III, I explain why the code-as-speech doctrine is deficient as a matter of First Amendment theory. As I argue, coverage for code cannot depend on whether code in the abstract is “speech” but, rather, must be sensitive to the social context surrounding specific uses of code. First Amendment coverage should extend only to those uses of code that are understood to promote the democratic values at the heart of the First Amendment. Finally, in Part IV, I propose a more principled approach to First Amendment coverage for code that centers on the values that might—or might not—be at stake each time code is used. How the First Amendment applies to code depends on whether that code at issue is used in public discourse, serves an informational function, or instead operates as an ordinary product.

#### I. THE DEVELOPMENT OF THE CODE-AS-SPEECH DOCTRINE

The First Amendment prohibits the government from abridging “the freedom of speech.”<sup>17</sup> However, the precise contours of what constitutes “speech” within the meaning of the First Amendment are not self-evident, nor are they fixed. The starting point in any legal challenge involving the First Amendment is to determine whether the First Amendment must be “brought into play” at all when assessing the constitutionality of government action.<sup>18</sup>

This is a question of First Amendment “coverage.”<sup>19</sup> The coverage inquiry concerns whether the validity of a law must be “determined by reference to First Amendment doctrine and analysis.”<sup>20</sup> In the absence of coverage, the First Amendment has no salience to the dispute, and it would be inapt for a court to invoke the First Amendment to invalidate a law.<sup>21</sup>

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17. U.S. CONST. amend. I.

18. Robert C. Post, *Recuperating First Amendment Doctrine*, 47 STAN. L. REV. 1249, 1250 (1995).

19. The concept of First Amendment coverage has been explored at length by scholars, most notably in the work of Frederick Schauer and Amanda Shanor. *See generally* Amanda Shanor, *First Amendment Coverage*, 93 N.Y.U. L. REV. 318 (2018); Schauer, *supra* note 16.

20. Robert C. Post, *Encryption Source Code and the First Amendment*, 15 BERKELEY TECH. L.J. 713, 714 (2000).

21. While it may be intuitive to assume that the First Amendment extends to all expressive and communicative acts, this claim is demonstrably inaccurate. As a number of scholars have persuasively argued, and as I will discuss below, understanding what falls within the boundaries of the First Amendment requires us to look beyond whether the activity in question resembles “speech.” *See, e.g.*, Ashutosh Bhagwat, *When Speech Is Not “Speech,”* 78 OHIO ST. L.J. 839, 871 (2017) (“[T]he word ‘speech’ as used in the First

Whether a government regulation implicates the First Amendment typically depends on *what* the law seeks to control—the object of the regulation—and *why* the law was enacted—the purpose or motive of the regulation.<sup>22</sup> This Article is primarily concerned with the former: specifically, when and how computer code and software qualify as part of the “freedom of speech” safeguarded by the First Amendment.<sup>23</sup>

One common way that courts and litigants approach the question of coverage is to ask whether the activity at issue “is speech.”<sup>24</sup> The claim that “code is speech” is such a theory of coverage. It stands for the idea that computer code is presumptively entitled to First Amendment protection and that regulations of code must be subject to constitutional scrutiny.<sup>25</sup> The principle that code is “speech” has enjoyed nearly unanimous approval in the lower federal courts, and it is a legal doctrine that continues to have vitality today.<sup>26</sup> But despite how clear-cut a rule that “code is speech” may seem, its simplicity conceals deep tensions in the relationship between code and the First Amendment.

### A. Understanding Code

Before examining how code relates to the First Amendment, it is important to understand what code is and how code can be used. At its most basic, code is a set of instructions that tells a computer what to do.<sup>27</sup>

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Amendment does not match the colloquial meaning of that word.”); Schauer, *supra* note 6, at 1620.

22. See Post, *supra* note 18, at 1255–56.

23. My focus in this Article is on the object of regulation rather than the motive of regulation because when the government acts with the purpose of suppressing or censoring ideas, its actions independently implicate the values protected by the First Amendment. In that sense, regulations that evince an improper government motive are covered by the First Amendment regardless of whether they are directed to code or any other object of regulation. See *R.A.V. v. City of St. Paul*, 505 U.S. 377, 386 (1992) (“[T]he government may not regulate [speech] based on hostility—or favoritism—towards the underlying message expressed.”); see also Elena Kagan, *Private Speech, Public Purpose: The Role of Governmental Motive in First Amendment Doctrine*, 63 U. CHI. L. REV. 413, 414–15, 425–37 (1996).

24. See Shanor, *supra* note 19, at 319.

25. Treating code as “speech” does not necessarily mean that regulations of code are per se invalid. Coverage addresses only the question of whether the First Amendment has any applicability to the activity or regulation at issue; it does not answer the separate question of whether a law actually violates the First Amendment. See Frederick Schauer, *What is Speech? The Question of Coverage*, in THE OXFORD HANDBOOK OF FREEDOM OF SPEECH 159, 168–69 (Adrienne Stone & Frederick Schauer eds., 2021) (contrasting the question of “coverage” with that of “protection”). However, as I will explain below, the coverage inquiry often has a determinative effect on the ultimate question of constitutional validity.

26. See, e.g., *Green v. U.S. Dep’t of Just.*, 392 F. Supp. 3d 68, 86 (D.D.C. 2019); *Bernstein v. U.S. Dep’t of State*, 922 F. Supp. 1426 (N.D. Cal. 1996).

27. JAMES GRIMMELMANN, INTERNET LAW 24–25 (11th ed. 2021).

Computer programmers write code to accomplish discrete tasks like word processing or stock trading or video conferencing.<sup>28</sup> Code drives email systems, video games, the apps on our phones, websites, and search engines.<sup>29</sup> But code encompasses more than what happens within the four corners of our computer or phone screens. Many everyday objects—from cars to microwaves—rely on code to function.<sup>30</sup> Code is an invisible but ubiquitous part of modern life.

One of the most common ways people interact with code is through software. Software is a collection of code that has been packaged together to serve a particular purpose.<sup>31</sup> In this Article, I use the term “software” to refer generally to products created using code. This includes applications like Microsoft Word or Zoom, as well as websites like Amazon.com and Twitter. I also mean for “software” to encompass products of code that do not have a readily apparent user interface like Google’s search engine algorithm or the artificial intelligence that operates a self-driving car.<sup>32</sup>

Code and software pose unique challenges to First Amendment analysis because code is both functional and expressive. Code is functional because it instructs a computer to do something.<sup>33</sup> We typically use and pay for code and software because we value its functionality. Most people see an email client or word processing application as simply a product that accomplishes a task. The fact that code is functional means that it can cause harm. A self-driving car might hit you;<sup>34</sup> a private surveillance company might collect your intimate personal information;<sup>35</sup> a job search website might show one kind of job posting to you but a higher-paying position to someone of a different race, gender identity, or sexual orientation.<sup>36</sup> As more of our everyday interactions are mediated through

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28. *Id.*

29. *Id.* at 33–34.

30. See L.P. Kok, P.E. Visser & M.E. Boon, *Programming the Microwave Oven*, 55 J. NEUROSCIENCE METHODS 119 (1994); Robert N. Charette, *This Car Runs on Code*, IEEE SPECTRUM (Feb. 1, 2009), <https://spectrum.ieee.org/this-car-runs-on-code> [<https://perma.cc/L7NA-2S4D>].

31. Greg R. Vetter, *The Collaborative Integrity of Open-Source Software*, 2004 UTAH L. REV. 563, 578.

32. See Stuart M. Benjamin, *The First Amendment and Algorithms*, in THE CAMBRIDGE HANDBOOK OF THE LAW OF ALGORITHMS 606–07 (Woodrow Barfield ed., 2021) (describing the outputs of code as distinct from the distribution of code).

33. See Vetter, *supra* note 31, at 578.

34. Daisuke Wakabayashi, *Self-Driving Uber Car Kills Pedestrian in Arizona, Where Robots Roam*, N.Y. TIMES (Mar. 19, 2018), <https://www.nytimes.com/2018/03/19/technology/uber-driverless-fatalty.html> [<https://perma.cc/SGS2-PVQV>].

35. Kashmir Hill, *The Secretive Company That Might End Privacy as We Know It*, N.Y. TIMES (Jan. 18, 2020), <https://www.nytimes.com/2020/01/18/technology/clearview-privacy-facial-recognition.html> [<https://perma.cc/82FL-Z659>].

36. Gary D. Friedman & Thomas McCarthy, *Employment Law Red Flags in the Use of Artificial Intelligence in Hiring*, ABA (Oct. 1, 2020), [https://americanbar.org/groups/business\\_law/publications/bit/2020/10/ai-in-hiring/](https://americanbar.org/groups/business_law/publications/bit/2020/10/ai-in-hiring/).

digital technology, code's functional attributes will only have a greater impact on our lives.<sup>37</sup>

However, even as code performs a function, code also communicates the ideas and information of its programmer; it is expressive. Underneath the surface, code is a text-based medium, and all software is composed of blocks of text.<sup>38</sup> The clearest example of this is a computer program's "source code." Source code describes the set of instructions, usually written in a human-readable programming language, that make up a program.<sup>39</sup> Source code usually must undergo additional translation and transformation before it can be used by a computer, but computer programs start as source code.<sup>40</sup> Thus, no matter how an application or a website may look to an end user, it can be represented as text, albeit in a computer language that may not be easily understood by a casual reader.

While computer programming languages do not read like natural languages, they have many similar features. For instance, programming languages often provide a set of rules and terminology that structure a programmer's use of that language in much the same way as grammar and vocabulary in a natural language.<sup>41</sup> Programming languages also establish shared conventions that different users of the language can rely on to communicate with and understand one another.<sup>42</sup> Many programming languages use natural language words to represent instructions and

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37. See Bryan H. Choi, *Crashworthy Code*, 94 WASH. L. REV. 39, 41–43 (2019).

38. See GRIMMELMANN, *supra* note 27, at 25 ("As in the legend of the golem, a computer is an inert lump of matter which is animated by the words we put into it.").

39. See *Source Code Definition*, LINUX INFO. PROJECT (Feb. 4, 2021), [http://www.linfo.org/source\\_code.html](http://www.linfo.org/source_code.html) [<https://perma.cc/95WG-E4T7>]; see also GRIMMELMANN, *supra* note 27, at 25–27; Vetter, *supra* note 31, at 579–80.

40. Source code is often contrasted with "object code," which is code that has been translated into a machine executable form. *Bernstein v. U.S. Dep't of Just.*, 176 F.3d 1132, 1140 (9th Cir. 1999). Computers typically cannot process source code directly because they only understand code written in a machine executable language. As a result, source code must be translated into object code before a computer can perform the instructions in the code. Vetter, *supra* note 31, at 581. Object code and source code are technologically distinct, but for the purposes of this paper, they are not *constitutionally* distinct. This is because we can conceive of object code simply as source code that has been translated into a more obscure language. Applying a Caesar cypher to a written message results in what looks like gibberish to most people, but that does not divest the message of its communicative capacity. In the same way, object code represents the same ideas and information that were written into the source code. See *Bernstein*, 176 F.3d at 1142. All this is to say that code cannot be constitutionally distinguished based only on the fact that it is source code or object code. As I will argue throughout this Article, what has constitutional significance is not what code looks like, but our social understanding of how code is used.

41. Vetter, *supra* note 31, at 580.

42. *Junger v. Daly*, 209 F.3d 481, 484 (6th Cir. 2000).

concepts.<sup>43</sup> To a programmer, writing code may not look all that different from writing a more recognizable textual work like an essay or a poem.

Writing code can be a highly expressive endeavor. Programmers often bring profound creativity to their work, and well-designed software is justifiably lauded as elegant and beautiful. Influential essayist and computer scientist Paul Graham famously compared programmers to painters.<sup>44</sup> Donald Knuth, widely considered the father of the modern analysis of algorithms, titled the comprehensive and ongoing monograph on his life's work *The Art of Computer Programming*.<sup>45</sup> Many programmers have strong opinions about seemingly esoteric concepts like coding "style," even when such decisions do not change the ultimate functionality of the software.<sup>46</sup> A programmer's code can reflect their training, personality, and signature technique.

In addition to writing code, people use code in other communicative ways as well. For instance, computer programmers often share their code in professional, academic, and even social discourse.<sup>47</sup> When programmers talk with one another about software, they frequently exchange code as part of those conversations. Scientific advances in statistics, data analysis, genomic sequencing, and every other discipline that uses computational techniques rely on researchers sharing code.<sup>48</sup> Code is often the most effective way for programmers to communicate an idea or concept to their colleagues.

More than that, sharing code is an important part of the culture of the software development and computer science community. Take, for example, the popular website GitHub, which hosts millions of "open source" software projects.<sup>49</sup> Users can publicly post the code for their software projects on GitHub, allowing others to examine and discuss their code.<sup>50</sup> Members of the GitHub community, including everyone from casual hobbyists to professional software engineers, engage with each

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43. For instance, the popular language Python includes commands like "print," "import," and "return." See *The Python Language Reference*, PYTHON (Oct. 17, 2021), <https://docs.python.org/3/reference/index.html> [<https://perma.cc/V25C-ZAKP>].

44. Paul Graham, *Hackers and Painters*, PAUL GRAHAM (May 2003), <http://www.paulgraham.com/hp.html> [<https://perma.cc/UAT6-WBKS>] (last visited Feb. 12, 2021).

45. See, e.g., 1 DONALD KNUTH, *THE ART OF COMPUTER PROGRAMMING* (1968).

46. See generally BRIAN W. KERNIGHAN & P.J. PLAUGER, *THE ELEMENTS OF PROGRAMMING STYLE* (2d ed. 1978).

47. *Junger*, 209 F.3d at 484.

48. See W. Patrick Walters, *Code Sharing in the Open Science Era*, 60 J. CHEMICAL INFO. MODELING 4417 (2020); Nick Barnes, *Publish Your Computer Code: It Is Good Enough*, 467 NATURE 753 (2010).

49. See GITHUB, <https://github.com/> [<https://perma.cc/LAZ9-BH5B>] (last visited Feb. 12, 2021).

50. See *How to Contribute to Open Source*, GITHUB, <https://opensource.guide/how-to-contribute/> [<https://perma.cc/3XH9-KDSG>] (last visited Oct. 17, 2021).

other's code and help each other work through difficult problems or challenges in the project.<sup>51</sup> Many contributors will write code to share with and merge into someone else's project.<sup>52</sup> Users can take the code that someone else has written and "fork" the project to take it in their own direction.<sup>53</sup>

Code is also an essential component of many communicative platforms that facilitate expression and the exchange of ideas. YouTube, Twitter, Microsoft Word, iMessage, and the litany of other software we use to communicate with one another daily operate through code.<sup>54</sup> These products make free speech possible in the digital age. In this way, code enables much of modern expression and helps produce new forms of culture, science, and art.<sup>55</sup> This is especially true now, as we are increasingly reliant on technology to stay connected. Many parts of the country and the world are—or recently were—in lockdown due to the global COVID-19 pandemic. Fundamental aspects of our lives have become inescapably mediated through code. We now rely on video conferencing tools, social media platforms, and messenger apps to engage with one another. Many of our most important social and civic exchanges are made possible only because of code. Indeed, the U.S. Supreme Court has recognized for some time now the critical role that novel communicative media play in modern discourse.<sup>56</sup> Code has reconceptualized the modern public square.

Given this understanding of code, it is unsurprising that code presents challenges for the First Amendment. Code looks like speech because it is composed in the medium of text and uses language. Yet code also looks like action because it performs tasks. Code conveys ideas, but it creates

51. See Emma Witman, *What Is GitHub? How to Start Using the Code Hosting Platform That Allows You to Easily Manage and Collaborate on Programming Projects*, INSIDER: TECH (June 29, 2021, 11:45 AM), <https://www.businessinsider.com/what-is-github> [https://perma.cc/X5LW-P796].

52. *Id.*

53. *Id.*

54. *Web and App Development*, WEB GUIDE, <https://www.thewebguild.org/code-the-glue-that-holds-it-all-together> [https://perma.cc/HJ47-6Y98] (last visited Oct. 17, 2021).

55. See Jack M. Balkin, *Digital Speech and Democratic Culture: A Theory of Freedom of Expression for the Information Society*, 79 N.Y.U. L. REV. 1, 5–9, 31–32 (2004); Sylvie Laffarge, *Why Coding Is the Creative Fuel for a Generation*, MICROSOFT (July 12, 2015), <https://news.microsoft.com/europe/2015/12/07/why-coding-is-the-creative-fuel-for-a-generation/> [https://perma.cc/L676-6U3R].

56. See, e.g., *Packingham v. North Carolina*, 137 S. Ct. 1730, 1737 (2017) (“[Social media] websites can provide perhaps the most powerful mechanisms available to a private citizen to make his or her voice heard.”); *Brown v. Ent. Merchs. Ass’n*, 564 U.S. 786, 790 (2011) (comparing video games to the “books, plays, and movies that preceded them”); *Reno v. ACLU*, 521 U.S. 844, 870 (1997) (explaining that new technologies allow anyone with an Internet connection to “become a town crier with a voice that resonates farther than it could from any soapbox”).

consequences by its very utterance. These features of code make it uniquely perplexing for First Amendment analysis. Should code be treated as speech or action? Do the ordinary rules of the First Amendment apply, or must we create special doctrines to address code? Courts have struggled with these questions for the better part of twenty years.

### *B. The Origins of Code as Speech*

Around the turn of the millennium, courts were asked to assess for the first time whether code falls within the protections of the First Amendment. Nearly every court to consider the issue concluded that code possesses sufficient speech-like qualities to entitle it to First Amendment coverage. Courts theorized that code is covered by the First Amendment because it exists in the medium of text and has the capacity to express ideas and facilitate communications. These decisions established the doctrine that “code is speech” and continue to have legal significance today.<sup>57</sup>

*Bernstein v. United States Department of State*,<sup>58</sup> the most influential early decision, involved a constitutional challenge to government licensing and prepublication review requirements for cryptography software.<sup>59</sup> In the late 1990s, mathematician Daniel J. Bernstein sought to publish the source code for an encryption algorithm called “Snuffle,” which he had developed as a graduate student.<sup>60</sup> At the time, federal regulations restricted the export of certain kinds of encryption technology due to national security concerns.<sup>61</sup> Bernstein submitted a request to the Department of State to determine whether his code was subject to the controls.<sup>62</sup> After being told that he needed a license to distribute Snuffle’s code, Bernstein sued, alleging that the restrictions were a prior restraint on his speech in violation of the First Amendment.<sup>63</sup>

The district court held that code is speech protected by the First Amendment.<sup>64</sup> It rejected the government’s contention that Snuffle was “conduct” outside the scope of constitutional protection merely because the code’s “purpose is functional rather than communicative.”<sup>65</sup> The court

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57. See *Bernstein v. U.S. Dep’t of State*, 922 F. Supp. 1426, 1435–36 (N.D. Cal. 1996); *Universal City Studios, Inc. v. Corley*, 273 F.3d 429, 447 (2d Cir. 2001); *Junger v. Daley*, 209 F.3d 481, 484–85 (6th Cir. 2000).

58. 922 F. Supp. 1426.

59. *Id.* at 1430–31.

60. *Id.* at 1428–29.

61. *Id.* at 1429–30.

62. *Id.* at 1430.

63. *Id.* at 1430–31.

64. *Id.* at 1436 (“For the purposes of First Amendment analysis, this court finds that source code is speech.”).

65. *Id.* at 1434–35.

found it noteworthy that code exists in the medium of text and is composed in language and, therefore, resembles the “speech” that customarily falls within the First Amendment’s ambit.<sup>66</sup> Accordingly, the court viewed code as categorically distinct from activities like flag burning, nude dancing, and other activities deemed expressive “conduct.”<sup>67</sup>

On appeal, the Ninth Circuit affirmed in a split decision, although it purported to apply a “somewhat narrower rationale” than that of the district court.<sup>68</sup> The majority focused its inquiry on the fact that researchers in the encryption field share code as a means of communicating with one another. Because “cryptographers use source code to express their scientific ideas,” the Ninth Circuit held that encryption software like Snuffle was entitled to the core protections of the First Amendment.<sup>69</sup> The Ninth Circuit agreed with the district court that the export controls at issue were a prior restraint on Bernstein’s speech.<sup>70</sup>

*Bernstein* was the first of several lower court decisions in the same period that broadly recognized code as “speech.”<sup>71</sup> To reach this conclusion, courts relied on two key justifications. First, courts acknowledged that code is a means of communicating ideas and conveying information. As the district court in *Bernstein* recognized, code is written in a computer “language,” which “participate[s] in a complex system of understood meanings within specific communities.”<sup>72</sup> Just like text written in any natural language like French or German, code has the capacity to “convey information capable of comprehension and assessment by a human being.”<sup>73</sup> The Seventh Circuit likened code to art, music, and

66. *Id.* at 1435 (“It would be convoluted indeed to characterize Snuffle as conduct in order to determine how expressive it is when, at least formally, it appears to be speech.”).

67. *Id.* at 1434–35.

68. *Bernstein v. U.S. Dep’t of Just.*, 176 F.3d 1132, 1135 (9th Cir.), *reh’g granted, op. withdrawn*, 192 F.3d 1308 (9th Cir. 1999).

69. *Id.* at 1141.

70. *Id.* at 1144–45.

71. *See, e.g., Universal City Studios, Inc. v. Corley*, 273 F.3d 429, 449–50 (2d Cir. 2001) (reasoning that code “is ‘speech’ within the meaning of the First Amendment”); *Junger v. Daley*, 209 F.3d 481, 485 (6th Cir. 2000) (“[C]omputer source code . . . is protected by the First Amendment.”); *Bernstein*, 176 F.3d at 1141 (concluding that code “must be viewed as expressive for First Amendment purposes, and thus is entitled to the protections of the prior restraint doctrine”); *Universal City Studios, Inc. v. Reimerdes*, 111 F. Supp. 2d 294, 327 (S.D.N.Y.), *aff’d sub nom. Universal City Studios, Inc. v. Corley*, 273 F.3d 429 (2d Cir. 2001) (“As computer code . . . is a means of expressing ideas, the First Amendment must be considered before its dissemination may be prohibited or regulated.”).

72. *Bernstein*, 922 F. Supp. at 1435.

73. *Corley*, 273 F.3d at 448; *see also Green v. U.S. Dep’t of Just.*, 392 F. Supp. 3d 68, 86 (D.D.C. 2019) (“Code is speech precisely because, like a recipe or a musical score, it has the capacity to convey information to a human.”); *Bernstein*, 922 F. Supp. at 1435 (finding “no meaningful difference between computer language . . . and German or French”).

poetry—things that may not be easily understood but are “unquestionably expressive” and, thus, “unquestionably shielded” by the First Amendment.<sup>74</sup> Code was therefore analogous to many of the forms of expression that indisputably fell within the ambit of the First Amendment.

Second, courts recognized that code plays a vital role in the discourse among academics and professionals in computational fields. These courts understood that programmers often rely on code to express ideas and viewpoints to one another and improve their craft.<sup>75</sup> As the Ninth Circuit pointed out, computer scientists use code “to facilitate the precise and rigorous expression of complex scientific ideas” in much the same way as “mathematicians use equations or economists use graphs.”<sup>76</sup> This is because code is often the most efficient way for computer scientists to communicate with one another about software.<sup>77</sup> Thus, courts found that code enables much of the vibrant academic and professional discourse within the computer science community.

Despite concluding that code is generally entitled to the protections of the First Amendment, however, courts struggled with how to reconcile the expressive attributes of code with its functional purposes.<sup>78</sup> The Ninth Circuit’s majority opinion in *Bernstein* drew a dissent and a concurrence that diverged on precisely this issue. Concerned that the majority opinion might constrain the government’s ability to regulate encryption technology at all, Judge Thomas Nelson argued in dissent that the dissemination of encryption code should be considered “conduct,” not “speech.”<sup>79</sup> He viewed Snuffle’s code as a “tool” whose ultimate purpose was to “perform the function of encrypting messages.”<sup>80</sup> Although Judge Nelson acknowledged that encryption code could “occasionally be used in an expressive manner,” he saw Snuffle as “inherently a functional device” that was designed for use, not discussion.<sup>81</sup> Even Judge Bright, who joined the majority in *Bernstein*, noted in a brief concurring opinion that while

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74. *Junger*, 209 F.3d at 484 (quoting *Hurley v. Irish-Am. Gay, Lesbian & Bisexual Grp.*, 515 U.S. 557, 569 (1995)).

75. *See Corley*, 273 F.3d at 448 (“A programmer reading a program learns information about instructing a computer, and might use this information to improve personal programming skills and perhaps the craft of programming.”).

76. *Bernstein*, 176 F.3d at 1141.

77. *See Junger*, 209 F.3d at 484 (“[S]ource code is the most efficient and precise means by which to communicate ideas about cryptography.”); *see also Bernstein*, 176 F.3d at 1141 (“By utilizing source code, a cryptographer can express algorithmic ideas with precision and methodological rigor that is otherwise difficult to achieve. . . . [I]n this field, source code is the preferred means to these ends.”).

78. *See, e.g., Junger*, 209 F.3d at 484 (“The issue of whether or not the First Amendment protects encryption source code is a difficult one because source code has both an expressive feature and a functional feature.”).

79. *Bernstein*, 176 F.3d at 1148 (Nelson, J., dissenting).

80. *Id.* (Nelson, J., dissenting).

81. *Id.* (Nelson, J., dissenting).

“the speech aspects of encryption source code represent communication between computer programmers,” code’s “functional purpose of controlling computers” might not “command protection under the First Amendment.”<sup>82</sup> Seeing compelling arguments on both sides, Bright urged Supreme Court review.<sup>83</sup>

Unfortunately, guidance from the Court never came. The Ninth Circuit eventually withdrew its opinion in *Bernstein* after granting rehearing en banc.<sup>84</sup> However, before the en banc panel had an opportunity to reconsider the case, the export control restrictions were amended such that *Bernstein* was no longer under a direct threat of prosecution, effectively mooted the case.<sup>85</sup>

After this initial flurry of cases around the turn of the millennium, attention on code and its relation to the First Amendment faded.<sup>86</sup> Courts never had the opportunity to fully explore the significance of classifying code as “speech,” and the exact scope of the doctrine developed in *Bernstein* is not at all clear. Read narrowly, *Bernstein* and other early cases suggest that the First Amendment specifically protects the dissemination of code used by researchers because code is necessary for academic inquiry in computational disciplines. But the opinions also contain language that imply a far broader sweep.<sup>87</sup>

The doctrine that “code is speech” highlights key tensions in the relationship between software and the First Amendment. On the one hand, code is written in text, uses language, communicates ideas, and facilitates expression. Code also makes speech possible in the digital age, enabling vibrant public discourse even amid a global pandemic. To permit the government to freely regulate code without reference to the First Amendment at all could threaten the vibrant speech and expression that occurs over new communicative media.

On the other hand, code has had a real and significant impact on the world. Software and digital technologies have a profound ability to shape our economy, our culture, and our democracy, and code can cause serious and lasting harm. The government must have some role in regulating such important and ubiquitous aspects of modern life. Demanding that all regulations of code be subject to constitutional scrutiny would constrain the government’s effectiveness in addressing the problems created by new technologies.

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82. *Id.* at 1147 (Bright, J., concurring).

83. *Id.* (Bright, J., concurring).

84. *Bernstein v. U.S. Dep’t of Just.*, 192 F.3d 1308, 1309 (9th Cir. 1999).

85. *Bernstein v. U.S. Dep’t of Com.*, No. C 95-0582 MHP, 2004 WL 838163, at \*2 (N.D. Cal. Apr. 19, 2004).

86. The last court of appeals to address the code-as-speech doctrine directly was the Second Circuit in *Corley* from 2001. See *Universal City Studios, Inc. v. Corley*, 273 F.3d 429, 446–49 (2d Cir. 2001).

87. See, e.g., *Bernstein*, 176 F.3d at 1145–46.

Discerning the proper way to account for these competing interests is vital. How courts ultimately understand First Amendment coverage for code will have significant ramifications for the future of both governance and free speech in the digital age.

## II. THE CONSEQUENCES OF PROTECTING CODE AS SPEECH

After entering a period of dormancy for over a decade, the code-as-speech doctrine has gained a newfound vitality in recent years. In particular, technology companies have relied on the principle that code is “speech” as part of escalating efforts to resist government regulation by advancing an expansive vision of First Amendment coverage for software and new technology.<sup>88</sup> By its own terms, a rule that “code is speech” suggests that virtually all regulations of software presumptively raise First Amendment concerns. If we take this principle seriously, troubling results follow.

Consider, for instance, tort claims arising from injuries caused by an AI-operated appliance. If a consumer is injured by an automated lawnmower due to faulty code, should the manufacturer be permitted to raise a First Amendment defense when the injured party sues? If code is speech, the lawnmower company might have a plausible claim that tort liability cannot attach to injuries resulting from its code. After all, the First Amendment protects newspapers from liability for printing false statements about a public figure absent actual malice.<sup>89</sup> The availability of First Amendment defenses to tort liability for injuries caused by code could have serious consequences for consumer protection, especially as code mediates more of our interactions with everyday objects.

Also consider the movement for fairness, accountability, and transparency in algorithms and machine learning. As a number of scholars and commentators have identified, the designers of automated decision-making systems can introduce biases into the software they create through the data and practices they employ.<sup>90</sup> For instance, algorithms that match job applicants with employers may produce discriminatory outcomes

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88. See *infra* notes 106–38 and accompanying text.

89. See *Gertz v. Robert Welch, Inc.*, 418 U.S. 323, 335–37, 336 n.7 (1974) (discussing the extension of the actual malice requirement of *New York Times Co. v. Sullivan*, 376 U.S. 254 (1964) to public figures and private persons involved in matters of public interest (quoting *Curtis Publ'g Co. v. Butts*, 388 U.S. 130, 164 (1967) (Warren, C.J., concurring in the result)).

90. See generally Pauline T. Kim, *Data-Driven Discrimination at Work*, 58 WM. & MARY L. REV. 857 (2017); Joshua A. Kroll, Joanna Huey, Solon Barocas, Edward W. Felten, Joel R. Reidenberg, David G. Robinson & Harlan Yu, *Accountable Algorithms*, 165 U. PA. L. REV. 633 (2017); Batya Friedman & Helen Nissenbaum, *Bias in Computer Systems*, 14 ACM TRANSACTIONS ON INFO. SYS. 330 (1996); Sarah M. West, Meredith Whittaker & Kate Crawford, *Discriminating Systems: Gender, Race, and Power in AI*, AI NOW INST. (Apr. 2019), <https://ainowinstitute.org/discriminatingystems.html>.

based on race, gender, age, and a host of other factors.<sup>91</sup> Would government efforts to restrict an algorithmic recruiting service from using discriminatory coding practices abridge the company's First Amendment rights to write the code it wishes? Would requiring the vendor to implement transparency standards or submit code to a government audit be compelled speech? For that matter, should the First Amendment protect a software developer's freedom to write code reflecting sexist or racist views? If code is speech, litigants might be justified in making these arguments.<sup>92</sup>

As a final illustration, consider data privacy laws. In the past several years, states have enacted statutes designed to protect consumers and the public from pervasive data collection, analysis, and sale. For instance, the Illinois Biometric Information Privacy Act (BIPA) states that “[n]o private entity may collect, capture, . . . or otherwise obtain a person's or a customer's biometric identifier or biometric information” absent notice and consent.<sup>93</sup> Biometric data include some of the most intimate information about a person, including their facial features, voice register, and other immutable characteristics.<sup>94</sup> Some of the greatest threats to personal privacy come from the mass collection of biometric data through software. Do laws like BIPA that restrict how software developers use certain kinds of sensitive data in their products violate their freedom to speak?

At least one company has argued that BIPA does. In 2020, the ACLU and others sued the controversial face recognition software company Clearview AI in Illinois state court, alleging violations of BIPA.<sup>95</sup> The plaintiffs' claims stemmed from Clearview's practice of capturing the facial geometry data—or faceprints—of millions of people, without their consent, from a trove of images the company had amassed from across the

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91. See Pauline T. Kim & Sharion Scott, *Discrimination in Online Employment Recruiting*, 63 ST. LOUIS U. L.J. 93, 98–101 (2018) (explaining how online recruiting systems can discriminate based on race, sex, age, or other protected statuses); Miranda Bogen, *All the Ways Hiring Algorithms Can Introduce Bias*, HARV. BUS. REV. (May 6, 2019), <https://hbr.org/2019/05/all-the-ways-hiring-algorithms-can-introduce-bias> [<https://perma.cc/Q9KK-FK8M>].

92. Some of these arguments may seem far-fetched or ridiculous, but as scholars have noted, many of the claims that have won the day in the last decade or so of First Amendment cases might have been laughed out of court if they had even been raised even just a few years prior. See Schauer, *supra* note 6, at 1616 (“What is most interesting about these various claims and arguments is not merely that some of them have been taken seriously. Rather, it is that they have been advanced at all, in contrast to what would have been expected a generation ago, when the suggestion that the First Amendment was even applicable to some of these activities would far more likely have produced judicial laughter or incredulity, if not Rule 11 sanctions.”) (footnote omitted).

93. 740 ILL. COMP. STAT. 14/15(b) (2021).

94. See 740 ILL. COMP. STAT. 14/5, 14/10 (2021).

95. Complaint at 1–3, *ACLU v. Clearview AI, Inc.*, No. 2020-CH-04353 (Ill. Cir. Ct. May 28, 2020).

Internet.<sup>96</sup> These faceprints are what drive Clearview’s powerful face recognition software, which it sells to thousands of customers, including police departments, government agencies, retail stores, and entertainment venues.<sup>97</sup>

Clearview responded to the ACLU’s lawsuit by raising a First Amendment defense. The company asserted that BIPA is unconstitutional as applied to its activities because the “creation and use of its app constitute protected speech under the First Amendment.”<sup>98</sup> Clearview is not alone in advancing this position. Curiously, in an amicus brief filed in support of the plaintiffs, the civil society group EFF agreed with Clearview that “to the extent the application of BIPA to Clearview regulates the code used in Clearview’s faceprinting, that code is protected under the First Amendment.”<sup>99</sup> While EFF proceeded to argue that BIPA is subject to intermediate scrutiny and should be upheld,<sup>100</sup> it is astonishing that briefs on both sides begin with the premise that Clearview’s software is its speech.<sup>101</sup>

As these examples demonstrate, a capacious vision of First Amendment coverage can lead to puzzling and disconcerting

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96. *Id.* at 3.

97. Ryan Mac, Caroline Haskins & Logan McDonald, *Clearview’s Facial Recognition App Has Been Used by the Justice Department, ICE, Macy’s, Walmart, and the NBA*, BUZZFEED NEWS (Feb. 27, 2020), <https://www.buzzfeednews.com/article/ryanmac/clearview-ai-fbi-ice-global-law-enforcement> [<https://perma.cc/SV7J-D32K>] (listing the FBI, ICE, Kohl’s, and Macy’s as among Clearview’s paying customers).

98. Defendant’s Memorandum of Law in Support of its Motion to Dismiss at 16, *ACLU v. Clearview AI, Inc.*, No. 2020-CH-04353 (Ill. Cir. Ct. May 28, 2020) [hereinafter Clearview’s Motion to Dismiss].

99. Brief of Amicus Electronic Frontier Foundation in Opposition to Defendant’s Motion to Dismiss at 6, *ACLU v. Clearview AI, Inc.*, No. 2020-CH-04353 (Ill. Cir. Ct. May 28, 2020); *see also* Brief of Amicus Electronic Frontier Foundation in Opposition to Defendant’s Motion to Dismiss at 5, *In re: Clearview AI, Inc., Consumer Privacy Litigation*, No. 21-cv-00135 (N.D. Ill. July 9, 2021).

100. *Id.* at 6–7.

101. While this Article was in the editing stage, the trial court denied Clearview’s motion to dismiss, finding that BIPA does not violate the First Amendment as applied to Clearview’s activities. *See* Memorandum Opinion and Order at 8–12, *ACLU v. Clearview AI, Inc.*, No. 2020-CH-04353 (Ill. Cir. Ct. August 27, 2021) [hereinafter Opinion Denying Clearview’s Motion to Dismiss]. Significantly, however, the court held that Clearview’s activities were covered by the First Amendment, noting that the First Amendment protects “computer code.” *Id.* at 8 (citing *Universal City Studios, Inc. v. Corley*, 273 F.3d 429, 449 (2d Cir. 2001)). The court also highlighted that “[a]ll the amici agreed or assumed that Clearview’s activities involve speech entitled to some level of First Amendment protection.” *Id.* at 9. Ultimately, the court applied the intermediate scrutiny test from *United States v. O’Brien*, 392 U.S. 367 (1968) rather than a higher level of scrutiny, concluding that BIPA survives that test. Opinion Denying Clearview’s Motion to Dismiss at 9–10. In any event, this is unlikely to be the last time courts puzzle through this issue. *See* Motion to Dismiss for Failure to State a Claim, *In re: Clearview AI, Inc., Consumer Privacy Litigation*, No. 21-cv-00135 (N.D. Ill. May 24, 2021) (raising, in a pending motion to dismiss, the same First Amendment argument in federal court litigation under BIPA).

consequences for a society that runs on code. Categorically applying the First Amendment to code makes it extremely difficult for courts to properly balance protecting free speech in the digital age with maintaining a legitimate role for the government to regulate software and digital technology. As this trend continues, judges will be faced with a grim choice: honestly apply the rule that “code is speech” and strike down sensible and important regulations of code or save those laws from invalidation by contorting First Amendment doctrine. Neither of these approaches is appealing.

### *A. Treating Code as Core Protected Speech*

One way to understand the rule that “code is speech” is that code is entitled to all of the First Amendment’s core protections. This suggests that code should be shielded from government interference in the same way as books, newspapers, and other forms of communication that customarily demand the highest levels of constitutional scrutiny. Regulations of code would be subject to each of the First Amendment’s principal safeguards, including its prohibitions on compelled speech, prior restraints, and content-based restrictions.<sup>102</sup> Laws that target code in such ways would likely be subject to strict scrutiny or some other heightened standard of review.

Over the last several years, lawyers for technology companies have enthusiastically embraced this maximalist vision for the constitutional protection of code. One prominent example is Apple’s 2016 challenge to a court order directing the company to aid the FBI in unlocking the iPhone belonging to Syed Rizwan Farook, one of the perpetrators of the 2015 shootings in San Bernardino, California.<sup>103</sup> To comply with the order, Apple would have needed to build a “backdoor” into the device’s security, something to which the company was vehemently opposed.<sup>104</sup> Apple resisted the court’s directive, recruiting Theodore Olson—the well-known lawyer who successfully argued *Citizens United v. FEC*<sup>105</sup> before the Supreme Court—to help mount its legal defense.<sup>106</sup>

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102. See, e.g., *W. Va. Bd. of Ed. v. Barnette*, 319 U.S. 624, 642–44 (1943) (compelled speech); *Neb. Press Ass’n v. Stuart*, 427 U.S. 539, 559 (1976) (prior restraints); *Simon & Schuster v. Members of N.Y. State Crime Victims Bd.*, 502 U.S. 105, 115–16 (1991) (content-based restrictions).

103. Joseph Bonneau, *A Technical Perspective on the Apple iPhone Case*, ELEC. FRONTIER FOUND. (Feb. 19, 2016), <https://www EFF.ORG/deeplinks/2016/02/technical-perspective-apple-iphone-case> [<https://perma.cc/M4RD-6TLF>].

104. See Apple’s Motion, *supra* note 10, at 1.

105. 558 U.S. 310 (2010).

106. Taylor Goldenstein, *High-Profile Attorney Ted Olson Joins Apple’s Fight Against FBI Terror Probe*, L.A. TIMES (Feb. 18, 2016, 12:03 PM),

Apple asserted that the order would force the company to write software communicating a message with which it disagreed, which would amount to “compelled speech and viewpoint discrimination in violation of the First Amendment.”<sup>107</sup> Citing the district court’s opinion in *Bernstein*, Apple argued that under “well-settled law,” its code was speech protected by the First Amendment, including against government compulsion.<sup>108</sup> The proper standard of review, according to Apple, was “exacting scrutiny,” which required the government to show that the order was narrowly tailored to a compelling state interest.<sup>109</sup> Apple’s biggest rivals, including Amazon, Google, and Microsoft, joined together to fund an amicus brief in support of Apple’s position.<sup>110</sup>

Apple’s arguments suggest that whenever the government forces a company to produce code with which it disagrees, the government compels speech in possible violation of the First Amendment. This proposition is astoundingly broad. Regulated entities presumably disagree on some level with most of the regulations by which they are bound. For instance, a company that develops and sells surveillance software may have little regard for the privacy of the individuals it surveils. Does that mean requiring the company to change its software to comply with privacy laws compels it to speak code with which it disagrees? Permitting a company to resist regulation simply because it requires the company to write code expressing a contrary viewpoint sets a precarious precedent.<sup>111</sup>

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<https://www.latimes.com/local/lanow/la-me-ln-ted-olson-joins-apple-fight-against-fbi-20160218-story.html>.

107. Apple’s Motion, *supra* note 10, at 32.

108. *Id.*

109. *Id.* at 32–33.

110. The technology companies hired prominent Supreme Court litigator Neal Katyal to file an amicus brief in support of Apple. See Nick Wingfield & Katie Benner, *Apple Is Rolling Up Backers in iPhone Privacy Fight Against F.B.I.*, N.Y. TIMES (Mar. 3, 2016), <https://www.nytimes.com/2016/03/04/technology/apple-support-court-briefs-fbi.html> [<https://perma.cc/P4EG-BJA7>]. The amici suggested that the FBI’s action was “classic compelled speech” because “[w]riting computer code . . . is a form of protected speech under the First Amendment.” See Brief of Amici Curiae Amazon.com, Box, Cisco Systems, Dropbox, Evernote, Facebook, Google, Microsoft, Mozilla, Nest, Pinterest, Slack, Snapchat, WhatsApp, and Yahoo in Support of Apple, Inc. at 22–23, *In re the Search of an Apple iPhone Seized During the Execution of a Search Warrant on a Black Lexus IS300, California License Plate 3KGD203*, No. CM 16-10 (C.D. Cal. Mar. 4, 2016).

111. Here, it is important to separate Apple’s objective of protecting its device security from government intrusion and Apple’s invocation of the First Amendment to achieve those ends. Giving the government a free pass to compel a private company to violate its own digital privacy and security standards may indeed be troubling and dangerous policy. And there is a host of reasons why the government’s actions in the Apple iPhone case may be unwise and even unconstitutional. However, just because the government compulsion might be wrong does not mean that it violates Apple’s free speech rights or that it raises a First Amendment question at all.

Regulated entities put forward an even more audacious version of Apple's argument in *CDK Global v. Brnovich*,<sup>112</sup> a recent case out of Arizona. There, technology companies that develop computer systems used by car dealerships challenged an Arizona law that imposed various interoperability and data portability standards on their software.<sup>113</sup> Among other things, the law required the companies to "make available" a secure, external software interface that would allow car dealers to transfer their data to and from their chosen software vendors and data integration providers.<sup>114</sup> The companies sued, alleging that the law violated their free speech rights because it would force the companies "to draft computer code."<sup>115</sup>

The district court agreed with the plaintiffs and held that the companies had plausibly alleged that the requirements compelled them to speak.<sup>116</sup> The court explained that the code the companies were required to write would "express the creative choices of the software developers and communicate those choices" to users of the system.<sup>117</sup> Therefore, the companies had a protected interest in the content of that code.<sup>118</sup>

It is difficult to discern any limit to this interpretation of First Amendment coverage for code. Writing code is an inherently creative and generative activity. All software is an expression of the choices made by the programmer during the software development process, and software functions precisely by communicating the ideas in the code to the user through a computer. The district court's logic suggests that any time the government directs a software maker to update or modify its code, that company could plausibly bring a First Amendment challenge. However, any meaningful regulation of the technology industry will require the government to compel software developers to draft code that conforms to government mandates. A law that enforces interoperability or data portability standards necessarily imposes obligations on software companies to author new code. Data privacy restrictions similarly compel vendors to write code to comply with obligations to expunge or sequester data. Accepting the court and the plaintiffs' view might mean that these regulations are all susceptible to constitutional challenge.

A final example of how technology companies have advanced sweeping First Amendment arguments for the protection of code is Google's assertion that the outputs of its search engine algorithm—the product of its code—constitute speech protected by the First

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112. No. CV-19-04849-PHX-GMS, 2020 WL 6290386 (D. Ariz. Oct. 27, 2020).

113. *See id.* at \*1.

114. ARIZ. REV. STAT. § 28-4654(A)(1)–(2) (LexisNexis 2019).

115. *CDK Global*, 2020 WL 6290386, at \*2.

116. *Id.* at \*3.

117. *Id.* at \*2.

118. *Id.*

Amendment.<sup>119</sup> In recent years, the technology giant has repeatedly argued that its search results are its “subjective opinion[.]” that is immune from government intervention and legal liability.<sup>120</sup> Remarkably, the few lower courts to address this issue have unanimously agreed with Google’s position.<sup>121</sup>

The leading case is *Search King, Inc. v. Google Tech., Inc.*<sup>122</sup> There, a company that optimizes its clients’ search engine results sued Google for tortious interference with its contractual relations, alleging that Google had modified its search algorithm to actively demote the plaintiff’s search rankings.<sup>123</sup> Google responded by asserting a broad First Amendment defense.<sup>124</sup> It argued that its search rankings are constitutionally protected speech that are wholly immune from legal liability.<sup>125</sup> The court agreed, holding that Google’s listings are “opinions of the significance of particular web sites as they correspond to a search query” that are deserving of “full constitutional protection” under the First Amendment.<sup>126</sup> As a result, the court concluded that “Google is immune from tort liability arising out of the intentional manipulation of [its results].”<sup>127</sup>

What the court means when it says that Google’s search results are its “opinions” is that Google’s rankings function in our society in the same way as the books, newspapers, and public debate that are most cherished

119. Mark Joseph Stern, *Speaking in Code*, SLATE (Nov. 20, 2014, 11:07 AM), <https://slate.com/technology/2014/11/are-google-results-free-speech-protected-by-the-first-amendment.html> [<https://perma.cc/ENP2-229R>]. To be sure, Google has yet to rely directly on the argument that its code is its speech. But this may be in part because its current, even more expansive, strategy has yet to be repudiated. Nonetheless, Google’s claim that its search results are its speech is closely related to the code-as-speech principle, and it is entirely plausible that Google could expressly raise code-as-speech arguments under the same circumstances in the future.

120. *Search King, Inc. v. Google Tech., Inc.*, No. CIV-02-1457-M, 2003 WL 21464568, at \*3–4 (W.D. Okla. May 27, 2003); see also *Kinderstart.com v. Google, Inc.*, No. C 06-2057 JF (RS), 2007 WL 831806, at \*20–21 (N.D. Cal. Mar. 16, 2007) (“Google itself holds out PageRank as an opinion . . .”) (emphasis omitted); *Langdon v. Google, Inc.*, 474 F. Supp. 2d 622, 629 (D. Del. 2007) (“Google argues that [injunctive] relief . . . would prevent Google from speaking in ways that Plaintiff dislikes.”).

121. See Greg Sterling, *Another Court Affirms Google’s First Amendment Control of Search Results*, SEARCH ENGINE LAND (Nov. 17, 2014, 7:18 PM), <https://searchengineland.com/another-court-affirms-googles-first-amendment-control-search-results-209034> [<https://perma.cc/V6HF-MEMR>].

122. 2003 WL 21464568.

123. *Id.* at \*1–2 (“Search King alleges Google purposefully and maliciously decreased the PageRanks previously assigned to Search King.”).

124. See *id.* at \*2.

125. *Id.* (“Google asserts it is immune from tort liability arising out of the devaluation because PageRanks constitute protected speech.”).

126. *Id.* at \*4 (internal quotation marks and citations omitted).

127. *Id.*

in our free speech tradition. The court in *Langdon v. Google, Inc.*,<sup>128</sup> another search manipulation case involving Google, made this connection clear. In that case, the court analogized Google’s selection of search results to a newspaper’s “editorial discretion” in choosing articles for publication.<sup>129</sup> It concluded that government interference with Google’s search results—by way of court-ordered injunctive relief—would constitute impermissible compelled speech.<sup>130</sup> By this reasoning, an order commanding Google to modify its search rankings in any way would “compel it to speak” views that Google does not hold.<sup>131</sup>

Eugene Volokh and Donald Falk take this position to its logical extreme in a white paper commissioned by Google.<sup>132</sup> They lay out an aggressive playbook for how Google and other technology companies can use First Amendment arguments to insulate the companies’ search listings from legal and political control. Their paper asserts that Google’s search results are shielded from government regulation because, just like a newspaper publisher, Google has a First Amendment right to select or curate the content in its search listings in any way Google chooses, even if those choices are anti-competitive, harmful, or biased.<sup>133</sup> Laws of general applicability like antitrust regulations have typically not raised serious free speech concerns,<sup>134</sup> but Volokh and Falk’s position may place even those kinds of government action into the crosshairs of the First Amendment.

Technology companies have already taken inspiration from Volokh and Falk’s paper and expanded this argument outside the context of Google.<sup>135</sup> For instance, in response to the ACLU’s lawsuit alleging violations of Illinois’s biometric privacy law, Clearview has argued that its face recognition software is protected by the First Amendment because

128. 474 F. Supp. 2d 622 (D. Del. 2007).

129. *Id.* at 630 (citing *Mia. Herald Publ’g Co. v. Tornillo*, 418 U.S. 241, 256 (1974); *Sinn v. The Daily Nebraskan*, 829 F.2d 662 (8th Cir. 1987); *Associates & Aldrich Co. v. Times Mirror Co.*, 440 F.2d 133 (9th Cir. 1971)).

130. *Id.* at 629–30 (agreeing with Google that plaintiff’s requested relief would “compel it to speak in a manner deemed appropriate by Plaintiff and would prevent Google from speaking in ways that Plaintiff dislikes”).

131. *Id.* at 629.

132. Eugene Volokh & Donald M. Falk, *Google: First Amendment Protection for Search Engine Results*, 8 J.L. ECON. & POL’Y 883, 887 (2012) (arguing that the First Amendment “fully protects Internet speakers’ editorial judgments about selection and arrangement of content”).

133. *Id.* at 898–99.

134. See Schauer, *supra* note 16, at 1781 (explaining that antitrust law “remains almost wholly untouched by the First Amendment”).

135. See Clearview’s Motion to Dismiss, *supra* note 98, at 17; No. CV-19-04849-PHX-GMS, 2020 WL 6290386, at \*2 (D. Ariz. Oct. 27, 2020) (“Plaintiffs claim that the law violates their free speech rights . . . by abridging their protected interest in exercising editorial discretion in the content of their computer systems . . .”).

it “is a search engine.”<sup>136</sup> According to Clearview, its service makes “judgments about what information will be most useful to its users,” particularly with regard to the identity of individuals in photos uploaded to its software.<sup>137</sup> Evidently, this alone entitles Clearview’s product to the core protections of the First Amendment. Clearview even goes so far as to suggest that its status as a search engine may “fully immunize” it from “most, if not all, kinds of civil liability and government regulation.”<sup>138</sup>

Clearview’s argument implies that—just like Google search—its face recognition software functions as the digital age equivalent of a newspaper editor. But this argument is as dangerous as it is absurd. A technology company’s proprietary surveillance software could not be more different from a newspaper, even if both do make subjective judgments about what information is most useful to its consumers. All software developers must make judgments about what data to convey to their products’ users.<sup>139</sup> If that is sufficient to trigger the First Amendment’s strongest protections, we should expect the digital display on a microwave or alarm clock to have access to those same constitutional safeguards. Common sense tells us that this cannot be the case.

Accepting the expansive view of First Amendment protection for code that these technology companies advance—and that some courts embrace—leads to troubling consequences in the digital age. One reason for concern is that these kinds of maximalist free-speech claims tend to swallow other democratic values. After all, the language of “speech” has powerful rhetorical force and authority in our culture and legal tradition.<sup>140</sup> Aggressively raising free speech claims can threaten our commitments to other vital interests and priorities.

Protecting Clearview’s face recognition system as speech suggests that Clearview’s right to create its software in whatever way it wishes trumps individual and societal interests in privacy and control over sensitive biometric data. Similarly, extending a broad immunity to Google’s search rankings presumes that Google’s freedom to conduct its business is more important than the public’s interest in being free from

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136. Clearview’s Motion to Dismiss, *supra* note 98, at 17 (emphasis added).

137. *Id.*

138. *Id.* at 17 n.10 (quoting *Zhang v. Baidu.com*, 10 F. Supp. 3d 433, 438 (S.D.N.Y. 2014)).

139. See Yotam Lurie & Shlomo Mark, *Professional Ethics of Software Engineers: An Ethical Framework*, 22 SCI. & ENG’G ETHICS 417, 424 (2016). Indeed, an entire branch of software development focuses on designing an optimal user experience and interface. See, e.g., JENNIFER TIDWELL, CHARLES BREWER & AYNNE VALENCIA, *DESIGNING INTERFACES* xi–xiii, 1–4, 27–30 (3d ed. 2020); DON NORMAN, *THE DESIGN OF EVERYDAY THINGS: REVISED AND EXPANDED EDITION* xii–xiv, 4–10, 68–71 (2013); JESSE J. GARRETT, *THE ELEMENTS OF USER EXPERIENCE* 7–12 (2d ed. 2010).

140. Schauer, *supra* note 16, at 1789–90 (discussing the First Amendment’s “magnetism”).

anti-competitive and harmful practices. Such invocations of expansive First Amendment rights are not designed to further discourse about the values we should elevate in our civic community but to end that debate. The repercussions of this approach are especially alarming when the asserted speech interests are grounded in something as ubiquitous as code and software, which are embedded in so many aspects of our social and economic life.

Moreover, presumptively subjecting laws that target code and software to constitutional scrutiny can greatly raise the cost of regulation for the government. Before a law ever goes into effect, policymakers would need to forecast all the ways that an opportunistic litigant might bring the First Amendment to bear against the law. As Jedediah Purdy has explained, merely making these kinds of novel and expansive constitutional arguments “sayable” imposes significant costs on those who support new regulations in these areas, and it enables the litigants who bring such claims to entirely remove key questions of policy from the ordinary democratic decision-making process.<sup>141</sup> This prevents new regulatory proposals from ever leaving the drafter’s table and could extinguish popular momentum for reform. Such ossification is particularly troubling in an area of law as important and evolving as technology regulation.

Heightened scrutiny under the First Amendment also increases the likelihood that laws and regulations are struck down as unconstitutional after they are enacted.<sup>142</sup> Applying it liberally to government restrictions that involve code or software would severely limit the political branches’ ability to respond to the myriad ways that technology is changing our society and democracy. While not every First Amendment challenge will be successful, the very fact that constitutional claims are plausible could impair the effectiveness of any regulatory regime aimed at reining in technology companies. At the very least, it could keep key legislative efforts tied up in protracted litigation for years to come. One need only look to the Affordable Care Act and the wide array of legal challenges it has attracted to find a recent example of how antiregulatory doctrines can leave critical programs in a precarious judicial limbo.<sup>143</sup> Accepting a

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141. Jedediah Purdy, *Neoliberal Constitutionalism: Lochnerism for a New Economy*, 77 *LAW & CONTEMP. PROBS.* 195, 209 (2014) (explaining that the availability of these constitutional arguments imposes “(1) costs in litigation, (2) caution in drafting, and (3) general uncertainty on those who support, design, and implement the policies that the novel arguments call into question”).

142. See Schauer, *supra* note 16, at 1770.

143. See Abbe R. Gluck, Mark Regan & Erica Turret, *The Affordable Care Act’s Litigation Decade*, 108 *GEO. L.J.* 1471, 1472–73, 1491–92, 1518 (2020) (describing the more than 2,000 legal challenges to the Affordable Care Act, including seven that reached the Supreme Court, since the law was enacted in 2010); see also *Legal Cases and State Legislative Actions Related to the ACA*, NAT’L CONF. OF STATE LEGISLATURES (June 29,

similar vision for the First Amendment and code would shift important decisions about the governance of the modern world away from public deliberation and the democratic process and toward the insular realm of courtrooms and constitutional litigation.

Expansive applications of heightened scrutiny to an ever-expanding assortment of “speech” can also erode and destabilize fundamental pillars of First Amendment law. As scholars and judges have warned, an outward push to expand First Amendment coverage to the fringes risks dilution of the protections at the core of the free speech right.<sup>144</sup> Defining code as speech and demanding heightened constitutional scrutiny for all regulations of code will lead to counter-intuitive results that First Amendment doctrine cannot bear. Some courts will surely be unnerved by the dire costs of such an approach.<sup>145</sup> When faced with the prospect of striking down critical and sensible technology regulations, judges may instead prefer to water-down or contort core First Amendment protections to achieve the more practically desirable result.

### B. Treating Code as Low-Value Speech

Courts that are loath to apply such exacting scrutiny to all regulations of code might be tempted to treat code as low-value speech that is due a weaker set of protections. Some courts previously adopted this approach to “save” regulations of code from otherwise certain invalidation.<sup>146</sup> In these decisions, judges continued to acknowledge that code is covered by the First Amendment,<sup>147</sup> but they hesitated to apply heightened scrutiny to the regulations of code at issue because doing so would likely have led to

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2021), <https://www.ncsl.org/research/health/state-laws-and-actions-challenging-ppaca.aspx> [<https://perma.cc/7RE9-7EDQ>].

144. See *Ohralik v. Ohio State Bar Ass’n*, 436 U.S. 447, 456 (1978) (fearing that expansive First Amendment coverage would “invite dilution” and “devitalization” of core First Amendment protections); Langvardt, *supra* note 13, at 782 (“[E]xpanded First Amendment coverage in peripheral areas might lead to a dilution of protection closer to the core.”); Schauer, *supra* note 6, at 1635 (“When the coverage of the First Amendment expands, . . . there is an increased possibility that, out of necessity, some of the existing doctrinal tools developed for a smaller area of coverage will have to be modified, possibly with unfortunate consequences.”).

145. For all of *Sorrell*’s absolutist language asserting that all information is speech, the Court acknowledged without explanation that critical information privacy laws like the Health Insurance Portability and Accountability Act (“HIPAA”) would remain constitutional even under the Court’s broad interpretation. See *Sorrell v. IMS Health Inc.*, 564 U.S. 552, 573 (2011).

146. See *Universal City Studios, Inc. v. Corley*, 273 F.3d 429, 449–53 (2d Cir. 2001) (rejecting the idea that computer code is “pure speech”); *Green v. U.S. Dep’t of Just.*, 392 F. Supp. 3d 68, 91–94 (D.D.C. 2019) (following the approach in *Corley*); *Def. Distributed v. U.S. Dep’t of State*, 121 F. Supp. 3d 680, 694 (W.D. Tex. 2015), *aff’d*, 838 F.3d 451 (5th Cir. 2016) (same).

147. E.g., *Corley*, 273 F.3d at 449.

their invalidation. Courts upheld the challenged regulations by applying a weaker set of protections than those reserved for speech at the core of the First Amendment, effectively treating code as a kind of low-value speech.<sup>148</sup>

An influential articulation of this approach is the Second Circuit's decision in *Universal Studios v. Corley*.<sup>149</sup> *Corley* involved a constitutional challenge to the Digital Millennium Copyright Act (DMCA).<sup>150</sup> Congress passed the DMCA in response to concerns raised by intellectual property rightsholders about the threat of digital piracy.<sup>151</sup> The law contained a set of muscular intellectual property protections, including provisions targeted at the manufacture and distribution of so-called circumvention technologies.<sup>152</sup> One such circumvention technology was the popular software program DeCSS, which was designed to unlock the digital encryption that protected the intellectual property on DVDs.<sup>153</sup>

In 2000, several major movie studios brought suit under the DMCA against Eric Corley, the operator of a well-known website for computer enthusiasts.<sup>154</sup> Corley had posted the code for DeCSS on his website as part of his ongoing coverage of the software and its applications.<sup>155</sup> The studios claimed that Corley, by posting the code for DeCSS on his website, was trafficking circumvention technologies in violation of the DMCA and, therefore, subject to liability.<sup>156</sup> In response, Corley argued that the DMCA's anti-circumvention provisions impermissibly restricted his speech and were therefore invalid under the First Amendment.<sup>157</sup>

The Second Circuit followed earlier decisions like *Bernstein* in holding that code is "speech" within the meaning of the First Amendment.<sup>158</sup> However, the court questioned whether code must necessarily be treated as "pure speech" subject to the First Amendment's highest protections.<sup>159</sup> Instead, the court recognized that the "realities" of code's functional purpose "require a First Amendment analysis that treats

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148. See, e.g., *id.* at 450, 454.

149. 273 F.3d 429.

150. *Id.* at 434; 17 U.S.C. §§ 1201–05.

151. See Matthew C. Mousley, *Peer-To-Peer Combat: The Entertainment Industry's Arsenal in Its War on Digital Privacy*, 48 VILL. L. REV. 667, 667–68, 670, 674, 678–79 (2003).

152. See 17 U.S.C. §§ 1201(a)(1)–(2), (b)(1).

153. *Corley*, 273 F.3d at 453.

154. See *id.* at 439–40.

155. *Id.* at 439.

156. *Id.* at 441–42.

157. See *id.* at 445.

158. *Id.* at 445–51 (concluding that "code conveying information is 'speech' within the meaning of the First Amendment").

159. *Id.* at 451.

code as combining nonspeech and speech elements.”<sup>160</sup> The Second Circuit’s solution was to extend First Amendment coverage to code in the abstract but to limit the level of protection code would receive, particularly when that code could be used to do unlawful things.<sup>161</sup>

As a result, the court upheld the DMCA’s anti-circumvention provisions.<sup>162</sup> The court came to this conclusion despite acknowledging that the DMCA prohibited the dissemination of a particular type of code—namely, anti-circumvention code—on its face.<sup>163</sup> Nevertheless, the court found that the permissive *O’Brien* test, generally reserved for restrictions on expressive conduct rather than speech, was the appropriate standard of review.<sup>164</sup> The court declined to apply heightened scrutiny because it saw the DMCA as “content-neutral,” as it did not aim to suppress the DeCSS code’s *expression* but merely its *function*.<sup>165</sup> In other words, the court read the law as targeting DeCSS based only on its ability to bypass the copyright protections on DVDs and not its communication of those ideas.<sup>166</sup>

This approach to content neutrality is analogous to how the Supreme Court has dealt with First Amendment challenges to ordinances targeting societally marginalized activities like the operation of adult bookstores and theaters.<sup>167</sup> For instance, in *City of Renton v. Playtime Theatres, Inc.*,<sup>168</sup> the Supreme Court held that a law restricting the location of adult theaters was content-neutral because it targeted only the “*secondary effects*” of the theaters—that is, the adverse economic, social, and aesthetic

160. *Id.*

161. The Second Circuit plainly disapproved of Corley’s conduct and the purpose of the DeCSS software. *See id.* at 454 (analogizing the dissemination of DeCSS to “trafficking in skeleton keys”); *see also id.* at 453 (“[T]he capacity of a decryption program like DeCSS to accomplish unauthorized—indeed, unlawful—access to materials in which the Plaintiffs have intellectual property rights must inform and limit the scope of its First Amendment protection.”).

162. *Id.* at 453–58 (upholding restrictions on posting and linking to the DeCSS code).

163. *See id.* at 453; *see also* 17 U.S.C. § 1201(a)(2) (“No person shall . . . traffic in any technology . . . that . . . is primarily designed or produced for the purpose of circumventing a technological measure that effectively controls access to a work protected under this title.”).

164. *See Corley*, 273 F.3d at 456; *see also Texas v. Johnson*, 491 U.S. 397, 403 (1989).

165. *Corley*, 273 F.3d at 454 (explaining that the DMCA was applied to DeCSS “solely because of its capacity to instruct a computer to decrypt CSS”).

166. *See id.* (“[Code’s] functional capability is not speech within the meaning of the First Amendment.”).

167. *See, e.g., City of Renton v. Playtime Theatres, Inc.*, 475 U.S. 41, 47–48, 50–54 (1986) (holding that a content-based zoning ordinance that restricted the location of adult movie theaters was nonetheless content-neutral for the purposes of the First Amendment and applying intermediate scrutiny).

168. 475 U.S. 41 (1986).

impact of the businesses on the surrounding community—rather than the *content* of the adult films shown in the theaters.<sup>169</sup> Relying on its classification of the ordinance as content-neutral, the Court applied intermediate scrutiny and upheld the ordinance.<sup>170</sup>

But calling the ordinance in *Renton* content-neutral is odd. After all, the law, on its face, applied only to theaters that specialized in adult films, and theaters were burdened only if their expressive products included adult material.<sup>171</sup> The restriction had an obvious relation to the content carried by the businesses. Indeed, the secondary effects that the law purportedly targeted all stemmed precisely from the fact that the theaters showed sexually explicit content. Justice Kennedy, in a later concurring opinion, referred to *Renton*'s content-neutral designation as “something of a fiction,” noting its inconsistency with how the Court ordinarily assesses content-neutrality.<sup>172</sup> At least in the context of adult businesses, it appears that the Court permits the government to regulate First Amendment-protected activities in ways that would be inappropriate in other contexts, treating sexual expression as a kind of low-value speech.<sup>173</sup>

In *Corley*, the Second Circuit relied on the same fiction to designate code as a kind of low-value speech entitled to lesser First Amendment protections.<sup>174</sup> Under the logic of *Corley*, while code is “speech” for the purposes of the First Amendment, such speech is protected from suppression only when the government fails to articulate a proper functional justification for its restrictions. This reasoning implies that if a regulation purports to target code based only on the consequences it produces rather than on its expression, the law likely will pass constitutional muster, even if it completely suppresses the dissemination of a particular type of code.

Notably, this represents a sharp departure from the logic of *Bernstein*. *Bernstein* evaluated restrictions on the dissemination of a particular kind

169. *Id.* at 47–48 (explaining that the ordinance was “designed to prevent crime, protect the city’s retail trade, maintain property values, and generally protec[t] and preserv[e] the quality of [the city’s] neighborhoods, commercial districts, and the quality of urban life, not to suppress the expression of unpopular views”) (alterations in original).

170. *Id.* at 50.

171. *Id.* at 44.

172. *City of Los Angeles v. Alameda Books, Inc.*, 535 U.S. 425, 448 (2002) (Kennedy, J., concurring). In *Alameda Books*, only a plurality of the Court adopted the reasoning in *Renton* to uphold the law at issue in that case. In addition to Justice Kennedy, Justice Souter in dissent, joined by two other justices, agreed that it was inaccurate to characterize the restriction in *Renton* as content-neutral, referring to it as “content correlated.” *Id.* at 457 (Souter, J., dissenting).

173. *See Young v. Am. Mini Theatres, Inc.*, 427 U.S. 50, 70 (1976) (plurality opinion) (“[I]t is manifest that society’s interest in protecting [erotic] expression is of a wholly different, and lesser, magnitude than the interest in untrammelled political debate.”).

174. *See Universal City Studios, Inc. v. Corley*, 273 F.3d 429, 453–54, 456 (2d Cir. 2001).

of code (encryption code) as a classic prior restraint on speech.<sup>175</sup> Faced with a similar question, *Corley* did not elect to follow this approach.<sup>176</sup> It is not hard to guess why. The Second Circuit likely hoped to affirm computer programmers' expressive interests in their code while also saving the recently-enacted DMCA's anti-circumvention provisions from invalidation. The court recognized that extending the same level of First Amendment protection to code as textual works like books and magazines could greatly impair the government's ability to regulate emerging problems like the piracy of digital intellectual property.<sup>177</sup> Honestly applying the code-as-speech doctrine from *Bernstein* would make it nearly impossible for laws like the DMCA—which the Second Circuit saw as valuable and necessary—to survive constitutional review.

At first blush, the logic of *Corley* seems like a sensible reaction to the dangers of treating code as First Amendment-protected speech. It appears to provide judges with a safety valve to save regulations they deem particularly useful or important from constitutional invalidation. However, while this line of reasoning provides the government with additional space to respond to the challenges of the digital age, it does so at the cost of doctrinal coherence. *Corley*'s approach relies on legal reasoning that is inconsistent with its own terms and is now also in direct tension with the direction of the Supreme Court's recent First Amendment jurisprudence.

First, classifying code as low-level speech is incompatible with courts' explanations for why code is covered by the First Amendment in the first place. If software is truly comparable to music or languages, as *Corley* itself admits,<sup>178</sup> then scrutiny under the *O'Brien* test cannot possibly be the right standard. A government regulation restricting the functional purpose of a textual work—say, a law that bans the use of foreign language books to teach languages other than English—would surely trigger strict scrutiny as a content-based restriction on speech. Moreover, if code is speech, then the DMCA seems to impose quite a

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175. *Bernstein v. U.S. Dep't of Just.*, 176 F.3d 1132, 1143–44 (9th Cir. 1999); see also *Bernstein v. U.S. Dep't of State*, 922 F. Supp. 1426, 1437 (N.D. Cal. 1996) (“Given that Snuffle source code is speech and not conduct, *O'Brien* does not appear to provide the appropriate standard under which to evaluate plaintiff's claims.”).

176. See *Corley*, 273 F.3d at 454.

177. See *id.* at 453, 455, 457–58.

178. *Id.* at 445–46 (“Mathematical formulae and musical scores are written in ‘code,’ *i.e.*, symbolic notations not comprehensible to the uninitiated, and yet both are covered by the First Amendment. If someone chose to write a novel entirely in computer object code . . . , the resulting work would be no different for constitutional purposes than if it had been written in English.”); see also *id.* at 448 (“[P]rogrammers communicating ideas to one another almost inevitably communicate in code, much as musicians use notes.”).

substantial burden on speech. The law, by the court's own account,<sup>179</sup> criminalizes the dissemination of an entire class of code. This result seems to be at odds with what the First Amendment stands for.

Additionally, the idea that the DMCA's anti-circumvention provisions are content-neutral is difficult to square with our common-sense intuitions about what makes a law content-based. If we accept the premise that code is speech, then a regulation that, on its face, targets a particular type of code by reference to its content seems to be plainly content-based. Seen in this way, the DMCA cannot fairly be said to regulate software in a content-neutral manner. If DeCSS did not communicate ideas and information about circumventing intellectual property protections, it would never have been subject to the DMCA. So if we presume that code is speech, by any reasonable interpretation, the DMCA operates as a content-based restriction by expressly singling out anti-circumvention code for suppression. Calling such a restriction content-neutral blurs the intuitive line of which laws do or do not discriminate on the basis of content.

Furthermore, *Corley's* reasoning is expressly in tension with the Supreme Court's contemporary free speech jurisprudence. Consider one of the Court's most significant recent opinions on content-based restrictions on speech, *Reed v. Town of Gilbert*.<sup>180</sup> In that case, the Court ruled that "[a] law that is content based on its face is subject to strict scrutiny regardless of the government's benign motive [or] content-neutral justification."<sup>181</sup> But if this is true, we should expect *Corley* to come out very differently post-*Reed*. After all, the DMCA selectively regulates a particular type of code and meets the "commonsense meaning" of content-based.<sup>182</sup> This suggests that the law should be evaluated under strict scrutiny even though the government offered a content-neutral explanation based on the law's functional purpose.<sup>183</sup>

Another example is the Court's decision in *Brown v. Entertainment Merchants Association*.<sup>184</sup> There, the Court took as given that a California law targeting the sale of violent video games to minors was a content-based restriction.<sup>185</sup> The California statute, like the DMCA, was aimed at a particular kind of code—violent video games—and was enacted to address the consequences that code produces: reducing children's

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179. See *id.* at 440–41 (describing provisions in the DMCA prohibiting the manufacture and trafficking of circumvention technologies and providing criminal sanctions (citing 17 U.S.C. §§ 1201(a)(2), (b)(1), 1204)).

180. 135 S. Ct. 2218 (2015).

181. *Id.* at 2228.

182. *Id.* at 2227.

183. *Id.* at 2228.

184. 564 U.S. 786 (2011).

185. *Id.* at 799 ("Because the Act imposes a restriction on the content of protected speech, it is invalid unless California can demonstrate that it passes strict scrutiny . . .").

exposure to violence.<sup>186</sup> Nevertheless, the Court evaluated the law as a content-based restriction on speech and applied strict scrutiny.<sup>187</sup>

While designating code as a form of low-level speech would provide the government with more breathing room to regulate software and digital technologies, it also strains First Amendment doctrine. It does not make sense for courts to recognize code as protected “speech” on the front-end but then permit the government to rather effortlessly justify restrictions on code on the back-end. This intentional blurring of doctrinal lines undermines the predictability and consistency of the rules that courts purport to apply, and it creates opportunities for unreasoned decision-making.<sup>188</sup> Such distortions could destabilize free speech doctrine and threaten to erode important protections at the core of the First Amendment.<sup>189</sup> The only consequences would be a more confused and arbitrary free speech jurisprudence.

What I have attempted to demonstrate in the preceding sections is that the principle that “code is speech” simply does not work in the modern world. Choosing between intolerable practical consequences on the one hand and doctrinal incoherence on the other is not a sign of a healthy First Amendment rule. The underlying problem is with the doctrine’s premise that code as such is covered by the First Amendment. Yet there is no reason why code in the abstract must automatically raise a First Amendment question simply because it can express ideas and facilitate communications. Code comes in many different forms and can be used in many ways. A categorical rule like “code is speech” cannot account for this nuance. A more principled approach to First Amendment coverage requires us to look beyond whether code is or is not “speech.” Instead, we must examine the ways in which code does or does not implicate the values of the First Amendment.

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186. See *id.* at 800–01, 804–05 (describing California’s justifications for the law).

187. I do not mean to suggest that the approach to evaluating content-based restrictions in *Reed* and other recent Supreme Court cases is correct. In fact, I agree with the growing number of scholars and jurists who have argued that *Reed* is a part of the troubling line of cases that establishes the First Amendment as the most potent deregulatory tool of the modern era. Rather, I mean only to highlight that the logic in *Corley* runs counter to the flow of contemporary First Amendment jurisprudence. As such, attempts to make *Corley* fit with *Reed* are likely to generate confusing and difficult-to-apply legal standards. The path toward a more robust and less arbitrary First Amendment doctrine may demand that we do away with the rules in both *Reed* and *Corley*.

188. See David S. Han, *Middle-Value Speech*, 91 S. CAL. L. REV. 65, 103 (2017) (“In areas where courts are not actually adhering to the rule, but instead distorting it *sub rosa* because it does not fit, the rule produces no effective judicial constraint, no consistency in application, and no predictability for litigants and lawmakers.”).

189. See Langvardt, *supra* note 13, at 783–87 (discussing the doctrinal incoherence of similar doctrines designed to cope with the strain of expansive First Amendment coverage).

## III. THE FIRST AMENDMENT'S "SPEECH" PROBLEM

The trouble with the doctrine that "code is speech" is not just that it leads to bad outcomes; it also makes no sense as a First Amendment rule. While code can certainly express ideas and facilitate communications, that alone should not entitle it to the full panoply of First Amendment protections. Code can be used in any number of ways, some of which implicate the concerns of the First Amendment but many of which do not. Simply put, the same constitutional interests cannot be at stake in every act that uses code.

The root of this problem lies in the proclivity of courts and litigants to adopt generalized theories of the First Amendment that reduce the coverage inquiry to a question of whether a thing is or is not "speech." Code is an interesting example for First Amendment analysis precisely because it demonstrates why defining the boundaries of the First Amendment based on abstract equivalences to speech leads to all kinds of logical and doctrinal quagmires.

Code complicates our understanding of First Amendment coverage in two key ways. First, code challenges how we perceive the boundary between "speech" and "conduct." This is because code embodies aspects of both speech and action in the same instance. Code is composed in the medium of text and language, but unlike other textual works, it creates action by its very utterance.<sup>190</sup> With code, the means of expressing an idea and the means of producing a function are one and the same. These aspects of code are impossible to disentangle. In this way, code illustrates the tension between conceptions of speech and action that often intuitively define the First Amendment's borders, which makes it difficult to assess using the customary language of First Amendment analysis.

Second, because code can be used in many ways, theorizing about code's constitutional salience in the abstract is folly. While code can sometimes touch on the concerns of the First Amendment, code often does not. Code can, of course, be used in ways that have a profound effect on public discourse. But code can also be used to calculate your taxes or vacuum your floors. The same constitutional values cannot attach to each act that uses code. Because each use of code can implicate First Amendment interests in such different ways, there must be something more to First Amendment coverage for code than code itself.

While the nature of code makes these tensions particularly evident, First Amendment doctrine has struggled with delineating coverage based on the unit of "speech" in more traditional mediums as well. Even outside the context of code, many of the communicative acts that we might colloquially call speech are not in fact treated as "speech" within the

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190. Lee Tien, *Publishing Software as a Speech Act*, 15 BERKELEY TECH. L.J. 629, 654-55 (2000).

meaning of the First Amendment. For instance, the First Amendment does not prevent the government from prosecuting someone for their agreement to enact a criminal conspiracy, even though such an agreement involves speech. Similarly, the laws governing contracts and commercial fraud are all government restrictions on what we can and cannot say. Although they are literal abridgments of speech, the First Amendment typically does not come into play when evaluating their constitutionality.<sup>191</sup>

Nor can First Amendment coverage turn on whether the activity in question expresses ideas or uses language. A traffic light conveys an idea—go, slow down, or stop—yet we do not extend the First Amendment’s protections to stoplights. Putting a hit out on someone uses language, but the Constitution fully permits the government to prohibit contract killing. As Robert Post has explained, First Amendment doctrine is littered with examples that “demonstrate that it is not possible constitutionally to distinguish speech from action on the ground that the former communicates ideas or uses language.”<sup>192</sup>

Courts have also found that a range of activities that involve no speaking at all falls within the ambit of the First Amendment. The wearing of armbands,<sup>193</sup> the burning of flags,<sup>194</sup> and abstract art<sup>195</sup> are not speech in the ordinary sense, but the Supreme Court nonetheless has labeled them part of the “freedom of speech” protected by the First Amendment. Even simple, everyday objects can trigger First Amendment coverage. As Lee Tien has observed, “any thing can be ‘speech’ in the right circumstances because we might have a practice of using the thing that way.”<sup>196</sup>

Post makes this point vividly with his example of Marcel Duchamp’s famous sculpture, *The Fountain*, which was nothing more than a plain urinal.<sup>197</sup> If the government were to ban *The Fountain* from being shown in an art exhibit, this would surely raise a First Amendment question. But why? Urinals are not speech, nor do they express a cognizable idea. Instead, as Post explains, what elevates Duchamp’s urinal to art is the social meaning and shared conventions surrounding the use of the object.<sup>198</sup> In the context of an art exhibit, we understand *The Fountain* as participating in an important medium of public discourse: art. The same

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191. See Shanor, *supra* note 19, at 325; Schauer, *supra* note 16, at 1766, 1773 (collecting examples).

192. ROBERT C. POST, *DEMOCRACY, EXPERTISE, AND ACADEMIC FREEDOM: A FIRST AMENDMENT JURISPRUDENCE FOR THE MODERN STATE* 3 (2012).

193. *Tinker v. Des Moines Indep. Cmty. Sch. Dist.*, 393 U.S. 503, 514 (1969).

194. *Texas v. Johnson*, 491 U.S. 397, 399 (1989).

195. *Hurley v. Irish-Am. Gay, Lesbian & Bisexual Grp. of Bos.*, 515 U.S. 557, 569 (1995) (designating abstract art, poetry, and music as “unquestionably shielded” by the First Amendment).

196. Tien, *supra* note 190, at 638.

197. Post, *supra* note 18, at 1253–55.

198. *Id.* at 1254.

cannot be said of the urinal in the washroom. Our social understanding of *The Fountain* is what gives it constitutional significance, not its relation to speech or expression.

What the preceding illustrations make clear is that no matter what our intuition might tell us, charting the boundaries of the First Amendment requires us to look beyond whether the activity resembles speech.<sup>199</sup> Many activities can express ideas, and many things have the capacity to convey information. Our notion of what the First Amendment protects cannot rest solely on those features. Expression, communication, and speech itself are not independent constitutional values, and the First Amendment was not meant to safeguard these interests in the abstract. Simply put, “speech” is not the right unit of analysis for the First Amendment.

The elementary particle of the First Amendment is not speech but power—specifically, the democratic power embodied in the communicative acts that we regard as vital to self-governance. By this account, the First Amendment’s purpose is not just to protect a set of individual liberties but to preserve the negotiation of power between the governed and the governing that underwrites our democratic system. In a democracy, the people are sovereign. And the only way for that to have meaning is if citizens can imagine government as responsive to their collective will. This central tenet of democratic self-rule is not only vindicated through participation in elections but also in the many ways we engage with one another daily to discuss and deliberate over the things that matter to us.

As Post has explained, these kinds of communicative acts are precious in our democracy because they allow us to see ourselves as “authors” of our government and are a necessary condition for the state’s legitimacy.<sup>200</sup> It is through this discourse that we shape ourselves and, in the process, shape our state. Seen in this light, the “freedom of speech” protected by the First Amendment represents something more than an individual freedom to speak. It embodies a deeper and more fundamental principle in our democratic order that concerns how we relate to our government and make it our own.

If the First Amendment is concerned with democratic power and not speech, then it is easy to see why some communicative acts have constitutional salience and others do not. For instance, the First Amendment is brought into play when the government seeks to suppress certain modes of communication that are critical to the formation of public opinion, as well as when the government acts with the purpose of tilting

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199. See Schauer, *supra* note 6, at 1620; see also Bhagwat, *supra* note 21, at 871 (“[T]he word ‘speech’ as used in the First Amendment does not match the colloquial meaning of that word.”).

200. Robert Post, *Participatory Democracy and Free Speech*, 97 VA. L. REV. 477, 482 (2011).

public debate and participation.<sup>201</sup> These interventions disrupt the negotiation of power between the people and their government, so the First Amendment demands careful scrutiny of these actions. Other communicative acts—the drafting of contracts and the solicitation of crimes—do not implicate this sense of democratic authorship and thus typically do not raise a First Amendment question.<sup>202</sup>

Seen in this way, First Amendment coverage turns, not on whether an activity is or is not “speech,” but on whether the activity is understood to further the values of the First Amendment. Only those acts that implicate the democratic power at the heart of the First Amendment are entitled to its protections. Coverage, then, is necessarily a sociological inquiry into how we engage with one another in a democracy. Whether an activity is covered by the First Amendment is determined by the social meaning of that activity and the function it serves within our civic community. Words exchanged between individuals may always involve the communication of ideas, but whether those words have constitutional salience depends on the context in which those words appear and our collective understanding of what those words mean.

This is why a doctor’s advocacy for a discredited medical procedure on a TV segment is protected by the First Amendment, but those same words spoken in the context of a doctor-patient relationship constitute malpractice. Why does the First Amendment apply to the former but not the latter? It is because of the meaning of those actions. When a doctor provides medical advice within a doctor-patient relationship, we understand the doctor to be speaking in their role as a fiduciary, not as an author in our democracy. However, when a doctor gives that same advice as a pundit on TV, we consider it part of the doctor’s contribution to public discourse, and, reprehensible as the speech may be, we treat it as covered by the First Amendment.

Social context also explains why the First Amendment sometimes applies different standards to different kinds of communicative acts within its coverage. If our doctor in the previous example provides discredited medical information in the setting of a commercial advertisement instead of an opinion segment, the First Amendment would understand these statements differently. Courts would analyze the doctor’s advertising activities under the commercial speech doctrine, which provides the government with significantly more leeway to restrict the doctor’s speech when it is false or misleading.<sup>203</sup> This distinction is not neatly captured in theories of coverage that are grounded in whether expression or communication is at stake. After all, commercial advertising is often more

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201. See *id.* at 482, 487–88.

202. See *id.* at 477.

203. See Robert Post, *The Constitutional Status of Commercial Speech*, 48 *UCLA L. REV.* 1, 38 (2000).

creative than the dry newspaper articles that are afforded the First Amendment's greatest protections.

If we consider the function of advertising in our society, the justification for differentiating between commercial speech and other forms of discourse becomes clear. The purpose of advertising is to influence people to buy things; it is an act of the market. We do not understand advertising as an exercise of democratic power—where the advertiser is a citizen engaging in an act of democratic authorship—but economic power—where the advertiser is a market player trying to sell a product to consumers. This is not to say that commercial advertising does not implicate democratic values at all. Advertising provides information to consumers, and it shapes our culture of consumption. Accordingly, advertising relates to self-governance not due to the advertiser's role as a speaker but through its effect on its audience. That is why the Supreme Court has traditionally centered commercial speech doctrine in the rights of listeners to receive information and not in the rights of advertisers to communicate whatever message they wish.<sup>204</sup>

This same approach applies to First Amendment coverage for code. Looking to social context and democratic power shows us why the “code is speech” doctrine is fundamentally flawed and cannot adequately describe the contours of First Amendment coverage. Such a rule implies that all acts that use code further interests protected by the First Amendment, but that simply cannot be true. Code is used in all kinds of ways, from the sublime to the ordinary. Not all of these activities implicate the interests of the First Amendment. Whether and how the First Amendment applies to code must depend on the constitutional values at stake. This analysis does not turn on any inherent feature of code but on our understanding of the different ways that code is used and how those uses implicate democratic power. Thus, the right question for the purposes of First Amendment coverage is not whether code is speech but whether a particular act that uses code furthers the democratic values of the First Amendment.

This framework for understanding coverage helps us better envision what the First Amendment means and what it is meant to protect. And, accordingly, it enables us to expose dangerous forms of First Amendment opportunism. As Frederick Schauer has explained, the First Amendment does not just have powerful legal force—demanding heightened forms of constitutional scrutiny—but rhetorical force.<sup>205</sup> As a result, resourceful

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204. Post & Shanor, *supra* note 7, at 172 (noting that the commercial speech doctrine was expressly created to “protect the rights of *listeners* rather than the autonomy of *speakers*”); see also *Zauderer v. Off. of Disciplinary Couns.*, 471 U.S. 626, 651 (1985) (explaining that “the extension of First Amendment protection to commercial speech is justified principally by the value to consumers of the information such speech provides”).

205. Schauer, *supra* note 16, at 1790–91 (explaining the “magnetism” of the First Amendment and its “considerable rhetorical power and argumentative authority”).

litigants and their lawyers are incentivized to frame challenges to government action in ways that activate the protections of the First Amendment by, for example, claiming that their activities are “speech.” This practice has led to an outward pressure on the boundaries of the First Amendment, as more and more activities are described in the language of “speech.”<sup>206</sup>

When the coverage inquiry focuses solely on abstract notions of expression and communication, distinguishing between claims of coverage that actually implicate First Amendment values and claims of coverage that are merely opportunistic is difficult. This is especially true for activities involving code and software, which inherently possess expressive and communicative attributes.<sup>207</sup> By shifting the question of coverage to one of democratic power instead of “speech,” we can better appreciate the interests that are really at stake when litigants make free speech arguments. Recognizing the ways that corporate litigants often attempt to smuggle free market ideologies through the language of “speech” is necessary if we wish to curb opportunism and achieve a more egalitarian First Amendment.

Consider, for instance, the arguments advanced by powerful technology companies to resist public accountability. When Google argues that its search engine results are immune from antitrust or tort liability, is its claim about promoting robust public discourse or is it instead about avoiding bothersome lawsuits and protecting its lucrative business model? When Clearview AI asserts that its proprietary face recognition software is its protected speech, is what is at stake Clearview’s right to speak as a citizen in our democracy or its desire to escape financially costly privacy obligations?

Asking these questions is important because they allow us to see that when technology companies make free speech claims, they rarely are acting in ways that we understand as promoting democratic self-governance. Instead, these companies are often manipulating the unit of “speech” to safeguard their own market power and to insulate their business practices from legal and political control.<sup>208</sup> Contrary to being an exercise of democratic power, these assertions are profoundly undemocratic. Seen in this way, rejecting the principle that code is speech is not a diminishment of the freedom of speech at all but a celebration of the democratic values the First Amendment was designed to protect. To

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206. *Id.* at 1795–96.

207. Robert Plotkin, *Fighting Keywords: Translating the First Amendment to Protect Software Speech*, 2003 U. ILL. J.L. TECH. & POL’Y 329, 338–39 (2003).

208. Kapczynski, *supra* note 8, at 1510–11 (describing ways that tech companies have forged the First Amendment into “a powerful constitutional weapon against the regulation of software and data”).

develop a more principled theory of coverage for code, we must consider what the First Amendment is for—and who it is for.

#### IV. UNDERSTANDING CODE THROUGH DEMOCRATIC POWER

The rule that “code is speech” must be abandoned because it unmoors First Amendment doctrine from its underlying values. Whether and how the First Amendment applies to a given activity depends on the democratic values at stake. What matters to this analysis is not any inherent feature of code itself but how code is used. In this Part, I propose a more principled approach to coverage for code that centers on how code relates to democratic power. I believe that code can be used to serve three functions, each of which implicates democratic power in a different way and therefore demands a different framework of review.<sup>209</sup>

First, code can be used in *public discourse*. When code operates in public discourse, it furthers the First Amendment’s central purpose of empowering citizen as authors to participate in our shared project of self-governance. Because of this, code used in public discourse receives the full panoply of “core” First Amendment protections. Second, code can be used to *disseminate useful information to the public*. Code used in this way implicates democratic power through its effect on listeners. In such cases, the government is permitted to intervene in limited ways to protect the public’s right to receive information. Third, code can be used as an *ordinary product*. The First Amendment generally does not come into play in these circumstances because such uses of code do not further any First Amendment values at all. The regulation of ordinary products is subject only to rational basis review unless some other constitutional claim applies.<sup>210</sup>

##### A. Code Used in Public Discourse

###### 1. THE VALUE OF PUBLIC DISCOURSE

The First Amendment protects to its highest degree what Robert Post calls “public discourse.”<sup>211</sup> According to Post, public discourse comprises

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209. This theoretical framework is not new. Robert Post and Jennifer Rothman have persuasively presented a similar approach in their analysis of the rights of publicity. See Robert C. Post & Jennifer E. Rothman, *The First Amendment and the Right(s) of Publicity*, 130 YALE L.J. 86, 132–46 (2020). However, the fundamental lesson of such a framework is that First Amendment analysis is necessarily context dependent. Thus, one of this Article’s primary contributions is its exploration of code and software using these concepts.

210. E.g., *United States v. Carolene Prods. Co.*, 304 U.S. 144, 152 (1938).

211. Robert C. Post, *The Constitutional Concept of Public Discourse: Outrageous Opinion, Democratic Deliberation, and Hustler Magazine v. Falwell*, 103

the communicative acts that are essential to the formation of public opinion.<sup>212</sup> Public discourse is indispensable to democracy because only when the people are able to freely participate in public opinion formation can they truly see themselves as “[a]uthors of government decisions that affect them.”<sup>213</sup> In this way, public discourse represents the voice of the people, and it is precious in a free-thinking democracy.

More than that, public discourse underwrites the ideal of self-governance on which our democracy was founded.<sup>214</sup> Because the very legitimacy of our democracy relies on citizens having the opportunity to influence public opinion and make the state responsive to their own personal views, government attempts to influence or restrict citizens from participating in public opinion are met with suspicion. That is why public discourse receives the full array of “core” First Amendment protections, including restrictions on the government’s ability to make content- and viewpoint-based laws and to compel speech.<sup>215</sup>

Public discourse encompasses more than the speech that Robert Bork has called “[e]xplicitly political”—that is, speech that is overtly “concerned with governmental behavior, policy or personnel.”<sup>216</sup> This is because, in a democracy, citizens exercise democratic power through more than just their activities in the voting booth or through purely political

HARV. L. REV. 601, 604 (1990); *see also* *Brown v. Ent. Merchs. Ass’n*, 564 U.S. 786, 790 (2011) (“The Free Speech Clause exists principally to protect discourse on public matters.”).

212. POST, *supra* note 192, at 15.

213. *Id.* at 17; *see also* *Citizens United v. Fed. Election Comm’n*, 558 U.S. 310, 373 (2010) (Roberts, C.J., concurring) (describing “public discourse” as part of the “foundation of our democracy”); *Whitney v. California*, 274 U.S. 357, 376–77 (1927) (Brandeis, J., concurring) (recognizing that a core purpose of the Free Speech Clause is to further democratic values).

214. *See* *Cohen v. California*, 403 U.S. 15, 24 (1971) (“The constitutional right of free expression . . . is designed and intended to remove governmental restraints from the arena of public discussion, putting the decision as to what views shall be voiced largely into the hands of each of us, in the hope that use of such freedom will ultimately produce a more capable citizenry and more perfect polity and in the belief that no other approach would comport with the premise of individual dignity and choice upon which our political system rests.”); *see also* *Police Dep’t of Chi. v. Mosley*, 408 U.S. 92, 95–96 (1972) (“To permit the continued building of our politics and culture, and to assure self-fulfillment for each individual, our people are guaranteed the right to express any thought, free from government censorship.”).

215. POST, *supra* note 192, at 21–22, 28; *see also* *Riley v. Nat’l Fed’n of the Blind of N.C., Inc.*, 487 U.S. 781, 795–97 (1988) (“Mandating speech that a speaker would not otherwise make necessarily alters the content of the speech . . . . [T]he First Amendment guarantees ‘freedom of speech,’ a term necessarily comprising the decision of both what to say and what *not* to say.”); *Mosley*, 408 U.S. at 95 (“[T]he First Amendment means that government has no power to restrict expression because of its message, its ideas, its subject matter, or its content.”).

216. Robert Bork, *Neutral Principles and Some First Amendment Problems*, 47 IND. L.J. 1, 27–28 (1971).

discourse. What “matters” in a democracy is determined by what the public considers worthy of the state’s attention, not the other way around. Building a free society means embracing all of what makes us individuals. Thus, as the Supreme Court has recognized, public discourse necessarily includes works of literature, art, and science.<sup>217</sup> Novels, movies, and even tabloids can shape public opinion in ways that direct government action cannot and make us as a people more whole. The concept of public discourse embraces not just politics but also culture.<sup>218</sup>

The First Amendment also protects as part of public discourse the practices and technologies through which individuals in our society exchange ideas and express opinions.<sup>219</sup> These practices and technologies—which Post has coined “media for the communication of ideas”—serve as the “primary vehicles for the circulation of the texts that define and sustain the public sphere.”<sup>220</sup> Media for the communication of ideas are essential to the exercise of democratic power because they are the “organ[s] of public opinion.”<sup>221</sup> Without them, robust public discourse would not be possible.<sup>222</sup>

The Supreme Court acknowledged this in *Joseph Burstyn, Inc. v. Wilson*,<sup>223</sup> when it recognized cinema as such a medium for the first time, explaining, “It cannot be doubted that motion pictures are a significant medium for the communication of ideas. They may affect public attitudes and behavior in a variety of ways, ranging from direct espousal of a political or social doctrine to the subtle shaping of thought which characterizes all artistic expression.”<sup>224</sup>

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217. *Miller v. California*, 413 U.S. 15, 34 (1973) (“The First Amendment protects works which, taken as a whole, have serious literary, artistic, political, or scientific value . . .”).

218. Jack M. Balkin, *Cultural Democracy and the First Amendment*, 110 Nw. U. L. REV. 1053, 1063–68 (2016) [hereinafter Balkin, *Cultural Democracy and the First Amendment*]; Jack M. Balkin, Commentary, *Digital Speech and Democratic Culture: A Theory of Freedom of Expression for the Information Society*, 79 N.Y.U. L. REV. 1, 35–37 (2004) [hereinafter Balkin, Commentary]; see also *Brown v. Ent. Merchs. Ass’n*, 564 U.S. 786, 790 (2011) (“The Free Speech Clause exists principally to protect discourse on public matters, but we have long recognized that it is difficult to distinguish politics from entertainment, and dangerous to try.”).

219. Balkin, Commentary, *supra* note 218, at 34–35.

220. Post, *supra* note 192, at 20; see also Post, *supra* note 18, at 1253–55, 1275–77.

221. *Joseph Burstyn, Inc. v. Wilson*, 343 U.S. 495, 501 (1952) (holding that motion pictures are such a medium).

222. Post, *supra* note 18, at 1276 (“These media combine to form a structural skeleton that is necessary . . . for public discourse to serve the constitutional value of democracy.”).

223. 343 U.S. 495.

224. *Id.* at 501. More recently, the Supreme Court has suggested that video games might be a medium for the exchange of ideas. *Brown v. Ent. Merchs. Ass’n*, 564 U.S. 786, 790 (2011) (“Like the protected books, plays, and movies that preceded them, video games

Because media for the communication of ideas play such a vital role in sustaining public discourse, the First Amendment is concerned with government attempts to influence works in a medium, regardless of the content or the quality of these works.<sup>225</sup>

This presumptive coverage for media for the communication of ideas extends to the essential tools and materials that comprise each medium. Take, for instance, Post’s example of a film projector.<sup>226</sup> A projector is a physical object that performs a function and plays no part in the expressive content of a film. However, screening a film in a movie theater would not be possible without a projector. In this way, film projectors enable motion pictures to fulfill their role as an organ of public discourse.<sup>227</sup> If the government were to require theaters to use government-licensed projectors, its actions would substantially impair the medium of film.<sup>228</sup> Such a law would raise a significant First Amendment question even though it applies only to a functional object rather than to a medium itself.

## 2. CODE AS PUBLIC DISCOURSE

Code can be used in public discourse. The activity at issue in *Bernstein* is an example of code that serves this function. The plaintiff, Daniel Bernstein, was a researcher who wished to publish the encryption algorithm he had worked on as a graduate student and share it within his scholarly community.<sup>229</sup> In the context of his academic environment, Bernstein’s dissemination of code is best understood as his participation in scientific discourse about cryptography. Indeed, the encryption code itself was an essential part of Bernstein’s contribution to his field.<sup>230</sup> This kind of scholarly engagement and inquiry is protected by the First Amendment as an important part of public opinion formation.<sup>231</sup>

Consider another example: Imagine that Congress, concerned with the potential negative consequences of machine learning and artificial intelligence, passes a law forbidding computer scientists from sharing code with one another about automated computational techniques. Such a

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communicate ideas—and even social messages—through many familiar literary devices . . . and through features distinctive to the medium . . .”).

225. See *United States v. Playboy Ent. Grp., Inc.*, 529 U.S. 803, 818 (2000) (“[E]sthetic and moral judgments about art and literature . . . are for the individual to make, not for the Government to decree, even with the mandate or approval of a majority.”).

226. Post, *supra* note 20, at 716–17.

227. *Id.* at 717 (“[Projectors] are integral to the forms of interaction that comprise the genre of the cinema.”).

228. *Id.*

229. See *Bernstein v. U.S. Dep’t of Just.*, 176 F.3d 1132, 1136 (9th Cir. 1999).

230. *Id.* at 1148.

231. See *Miller v. California*, 413 U.S. 15, 34 (1973) (including works that have serious “scientific value” within the First Amendment’s core protections).

law would raise serious First Amendment concerns. It restricts the academic discourse of computer scholars and interferes with public opinion by defining what is acceptable and unacceptable in the field of computer science. This kind of regulation of code would appropriately be evaluated under strict scrutiny.<sup>232</sup>

This does not mean, however, that all regulations of the dissemination of code implicate public discourse. Just as code may be distributed to “speak” as in *Bernstein*, code may also be distributed for use. When code is disseminated for use instead of for discussion, it is not in public discourse and typically will not raise a First Amendment question. As I will explain below, the distribution of the digital blueprints for 3D-printed firearms is likely an example of code shared for use rather than discourse.<sup>233</sup>

Code may also be protected as a part of public discourse when it is integral to a medium for the exchange of ideas. Consider the code that is used to operate a video conferencing service like Zoom. In the modern world, video conferencing services are a crucial medium for the communication of ideas. Amid the global COVID-19 pandemic, our professional, social, and political lives are mediated through digital platforms. We now rely daily on video conferencing as a vital organ of public opinion. If the government were to restrict the code that runs video conferencing in a way that substantially impairs or takes down the service, the government’s actions would rightly be subject to First Amendment scrutiny as a restriction on public discourse. Imagine, for example, that the government imposes severe restrictions on the amount of bandwidth video conferencing calls are permitted to consume such that online events are impossible to hold due to laggy video and audio connections. Such a law would impede a medium for the exchange of ideas and justifiably trigger the First Amendment.

Here, it is worth revisiting the code-as-speech arguments raised by Apple in its opposition to the court order directing the company to unlock the iPhone belonging to Syed Rizwan Farook. In that dispute, Apple argued that forcing the company to write code it disagrees with is a form of compelled speech.<sup>234</sup> However, only speech within public discourse implicates the constitutional values that justify the First Amendment’s restrictions on compelled speech.<sup>235</sup>

So, what Apple is asserting in its First Amendment argument is that the code it writes constitutes public discourse. As previously explained, such an expansive vision of code as public discourse results in neither

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232. See *supra* note 181 and accompanying text.

233. See *infra* notes 301–06 and accompanying text.

234. See Apple’s Motion, *supra* note 10, at 43.

235. See POST, *supra* note 192, at 22–23.

sound policy nor coherent First Amendment theory.<sup>236</sup> But Apple's argument also does not make much practical sense. It would be absurd to assume that all of Apple's code contributes to public discourse. In fact, the opposite is true. Apple jealously guards much of its code as trade secrets, which are deliberately kept out of public circulation.<sup>237</sup> Such code rarely, if ever, enters public discourse, nor is it meant to. Thus, Apple's argument that its code categorically functions as public discourse cannot be correct.

Rejecting Apple's assertion that all its code is public discourse does not mean, however, that the First Amendment is necessarily left out of this dispute. Apple's First Amendment defense would have been on better footing if it had focused less on its code in the abstract and more on the particular use of code the government sought to compel. Instead of asserting that code is speech, Apple might have argued that forcing it to construct a backdoor into its own iPhone security system impairs a significant medium for the communication of ideas, namely encrypted digital communications.

As an illustration of this idea, consider an analogous example involving physical messages. Suppose there is a law that permits the United States Postal Service to open any letter sent through the mail. Such a policy could allow the government to open letters for all kinds of improper reasons and would likely discourage letter writing. People would be less willing to share their opinions—political, cultural, or otherwise—through the mail if they knew the government could be watching. As such, the law would be subject to First Amendment scrutiny as a restriction on public discourse.<sup>238</sup>

The argument would be the same for Apple and iPhone encryption. If the government could compel Apple to create a backdoor into iPhone security any time it wished to view the contents of an iPhone, people may stop using iPhones to communicate candidly with one another. Assuming

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236. See *supra* notes 106–18 and accompanying text.

237. See, e.g., Stephen Nellis, *Ex-Apple Worker Charged with Stealing Self-Driving Car Trade Secrets*, REUTERS (July 10, 2018, 3:26 PM), <https://www.reuters.com/article/us-apple-theft/former-apple-employee-charged-with-criminal-theft-of-trade-secrets-idUSKBN1K02RR> [<https://perma.cc/QG6W-29H6>]; Mark Gurman, *Apple Warns Employees to Stop Leaking Information to Media*, BLOOMBERG (Apr. 13, 2018, 12:40 PM), <https://www.bloomberg.com/news/articles/2018-04-13/apple-warns-employees-to-stop-leaking-information-to-media> [<https://perma.cc/N2AX-NBXW>] (describing an internal company memo that warned employees to not leak software trade secrets); see also *Apple Comput., Inc. v. Doe 1*, No. 1-04-CV-032178, 2005 WL 578641, at \*8 (Cal. Super. Ct. Mar. 11, 2005), *order set aside*, *O'Grady v. Super. Ct. of Santa Clara Cnty.*, 44 Cal. Rptr. 3d 72 (Cal. Ct. App. 2006), *and modified*, (June 23, 2006) (granting Apple authority to issue civil subpoenas in order to identify the source that disclosed trade secrets pertaining to an impending product release).

238. See Post, *supra* note 20, at 723 (suggesting that a law that required the contents of all letters be exposed to mail handlers would be properly scrutinized under the First Amendment).

encrypted messages are an important organ of public opinion formation, such an outcome would raise serious constitutional concerns. Framed in this way, the government's action triggers the First Amendment's core protections, not because Apple's code as such furthers any constitutional value, but because Apple's particular use of code is essential to public discourse.

### *B. Code Used to Disseminate Useful Information*

#### 1. THE VALUE OF DEMOCRATIC COMPETENCE

Not all speech functions as public discourse. Speech that is not a part of public discourse does not serve the same constitutional value of democratic legitimation and accordingly does not receive the same kind of protection under the First Amendment as public discourse.<sup>239</sup> However, such speech may still come within the ambit of the First Amendment if it furthers some other constitutional value. Another important interest the First Amendment protects is the production of knowledge and useful information, a value that Post has labeled “democratic competence.”<sup>240</sup>

The First Amendment protects democratic competence because the dissemination of useful and accurate information helps foster an informed public, which is necessary for intelligent self-government and democratic legitimation.<sup>241</sup> In this way, the First Amendment is concerned with “the flow of information so as to enhance the quality of public decision-making.”<sup>242</sup> The value at stake is not the autonomy of speakers to communicate information but the interests of the audience in receiving information.

The rules governing commercial speech are the most clear-cut example of a First Amendment doctrine that is justified by the value of democratic competence.<sup>243</sup> Commercial speech generally refers to speech made for advertising purposes.<sup>244</sup> It encompasses attempts by speakers to

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239. See Frederick Schauer, *Categories and the First Amendment: A Play in Three Acts*, 34 VAND. L. REV. 265, 286–87 (1981) (“[N]ot all forms of speech are necessarily amenable to the same analytic approach. The tests and tools created to deal with the likes of *Brandenburg*, *Whitney*, *Schenck*, and *Debs*, for example, may not be those most appropriate for dealing with problems of a quite different kind.”) (footnotes omitted).

240. POST, *supra* note 192, at 27–60.

241. *Id.* at 33–34 (“Democratic competence refers to the cognitive empowerment of persons within public discourse . . . .”); see also Robert Post, *Compelled Commercial Speech*, 117 W. VA. L. REV. 867, 874 (2015) (“[W]e require knowledge and information in order adequately to govern ourselves.”).

242. POST, *supra* note 192, at 42.

243. *Id.* at 34–35.

244. See *Va. State Bd. of Pharmacy v. Va. Citizens Consumer Council, Inc.*, 425 U.S. 748, 758 (1976).

propose transactions, sell goods and services, and influence purchasing decisions.<sup>245</sup> Commercial speech differs from speech within public discourse not because of its content but because it serves a “different social function.”<sup>246</sup> As the Supreme Court has explained, commercial speech is covered by the First Amendment because it provides an “informational function” to consumers.<sup>247</sup>

Commercial speech is protected to serve listeners’ interests in “receiv[ing] information.”<sup>248</sup> Because the value of democratic competence focuses on enhancing the flow of information to the public, when the government targets commercial speech, it is permitted to act in ways that typically would be impermissible in the context of public discourse.<sup>249</sup> For example, the government is permitted to discriminate based on content to suppress commercial speech that is false or misleading.<sup>250</sup> The government may similarly require commercial speakers to alter or augment their messages to disclose certain factual information to potential consumers.<sup>251</sup>

In addition to commercial speech, other kinds of communicative acts may also implicate the audiences’ interests in receiving information. For instance, Post has suggested that the dissemination of expert knowledge is best viewed as furthering the value of democratic competence.<sup>252</sup>

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245. See *Bolger v. Youngs Drug Prods. Corp.*, 463 U.S. 60, 66–67 (1983).

246. Balkin, *Cultural Democracy and the First Amendment*, *supra* note 218, at 1084.

247. *Cent. Hudson Gas & Elec. Corp. v. Pub. Serv. Comm’n.*, 447 U.S. 557, 563 (1980); see also *Zauderer v. Off. of Disciplinary Couns.*, 471 U.S. 626, 651 (1985) (“[T]he extension of First Amendment protection to commercial speech is justified principally by the value to consumers of the information such speech provides . . . .”); *Va. State Bd. of Pharmacy*, 425 U.S. at 764 (recognizing that society has “a strong interest in the free flow of commercial information”).

248. Balkin, *Cultural Democracy and the First Amendment*, *supra* note 218, at 1084; see also *id.* at 1085 (“Commercial speech has constitutional value only because audiences have an interest in receiving valuable information.”).

249. Compare *Cent. Hudson*, 447 U.S. at 563 (“The government may ban forms of communication more likely to deceive the public than to inform it . . . .”), with *United States v. Alvarez*, 567 U.S. 709, 718–19 (2012) (plurality opinion) (holding that false statements that are made in public discourse may receive First Amendment protection); see also POST, *supra* note 192, at 42–43 (explaining the distinction between what government actions are permissible in the context of commercial speech as compared to public discourse).

250. *Cent. Hudson*, 447 U.S. at 563 (“[T]here can be no constitutional objection to the suppression of commercial messages that do not accurately inform the public about lawful activity.”).

251. *Zauderer*, 471 U.S. at 652–53 (permitting Ohio to require that attorneys disclose certain factual information about contingency-fee arrangements in order to ensure that potential clients are not misled); see also *id.* at 650–51 (“Because the extension of First Amendment protection to commercial speech is justified principally by the value to consumers of the information such speech provides, appellant’s constitutionally protected interest in *not* providing any particular factual information in his advertising is minimal.”).

252. POST, *supra* note 192, at 43–53.

Individuals have an interest in receiving accurate and truthful information from their doctors, lawyers, and other professionals. Thus, the government is permitted to impose legal liability for malpractice on professionals who communicate faulty advice to their clients.<sup>253</sup> Likewise, the government can compel professionals to disclose certain information about their practices.<sup>254</sup> If this kind of professional speech were considered part of public discourse, these regulations would be subject to strict scrutiny. However, such laws are entirely consistent with the First Amendment because they help preserve the integrity of the client-professional relationship, an audience-based value.<sup>255</sup>

Of course, this does not mean that the government has a free pass to regulate the speech of professionals in any way it wishes. Were the government to prevent professionals from communicating their expert knowledge to clients or compel professionals to produce false or misleading information, it would undermine democratic competence and fairly raise a First Amendment question.<sup>256</sup> These examples can help us understand the ways that uses of code might also implicate democratic competence.

## 2. CODE SERVING AN INFORMATIONAL FUNCTION

Just as code can be used to facilitate public discourse, code can also be used to disseminate useful information to the public. This is perhaps the best way to approach the question of whether and how Google's search engine results are protected by the First Amendment.

Whether Google is correct in its view that the First Amendment immunizes it from legal liability for manipulating its search rankings depends on the constitutional value these search results implicate. This question has generated a fierce and ongoing debate over the proper way to evaluate Google's First Amendment claims. Scholars have proposed a range of First Amendment theories, analogizing search results to newspapers, parades, charts and maps, phonebooks, personal advisors, and indexes.<sup>257</sup> The brief discussion that follows is not meant as an attempt to

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253. *Id.* at 45–48 (describing the relationship between malpractice law and the First Amendment value of democratic competence).

254. *See, e.g., Zauderer*, 471 U.S. at 652–53 (disclosure of contingent fee arrangements); *Ohralik v. Ohio State Bar Ass'n*, 436 U.S. 447, 449 (1978) (permitting Ohio to “discipline a lawyer for soliciting clients in person, for pecuniary gain, under circumstances likely to pose dangers”).

255. Claudia E. Haupt, *Professional Speech*, 125 YALE L.J. 1238, 1283–87, 1289–90 (2016); Daniel Halberstam, *Commercial Speech, Professional Speech, and the Constitutional Status of Social Institutions*, 147 U. PA. L. REV. 771, 773, 844–45 (1999).

256. POST, *supra* note 192, at 48 (explaining that government actions that “disrupt the communication of accurate expert knowledge” trigger First Amendment coverage).

257. *See infra* notes 259, 265 and accompanying text.

resolve this thorny set of questions but merely to propose and defend an alternative angle with which to approach this problem.

Existing frameworks for analyzing Google's search results can largely be separated into two camps. The first camp broadly adopts Google's vision of the First Amendment. Google's argument boils down to the claim that its search results should be protected as public discourse. This is what Google means when it claims that its ranking decisions are its "opinion."<sup>258</sup> Indeed, it would make sense to inoculate Google from tort liability, as the court did in *Search King*, only if we think of Google's search results as speech within public discourse. When communicative acts occur outside of public discourse, the government is fully permitted to impose forms of legal liability—for instance, malpractice liability—on speakers.

Eugene Volokh and Donald Falk endorse this broad vision of Google search results as public discourse. They argue for extending the strongest First Amendment protections to search engine outputs because they view search platforms as no different for First Amendment purposes than newspapers, books, or parades.<sup>259</sup> In the same way that *The New York Times* has decision-making authority over what articles and op-eds it prints, Volokh and Falk argue that Google should have "editorial control and judgment" over its search listings "upon which the State cannot intrude."<sup>260</sup>

The second camp takes the opposite position. Advocates for this theory view Google's search results as an ordinary product that lies wholly outside the protections of the First Amendment.<sup>261</sup> Absent some censorial motive on the part of the government,<sup>262</sup> Google can never claim First Amendment protection for its search rankings. Adopting this approach, Oren Bracha and Frank Pasquale have argued that the function of Google's search results is "not to express meaning but rather to 'do things in the world.'"<sup>263</sup> Even though the search results possess a communicative

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258. See Volokh & Falk, *supra* note 132, at 899.

259. *Id.* at 898–99 ("[W]hether it involves a parade, a newspaper, or a page of results displayed by a search engine, the First Amendment fully protects the speaker's 'autonomy to control [its] own speech.'"); see also *id.* at 899 (asserting that Google and other search companies are "analogous to newspapers and book publishers"); *id.* at 884 (comparing Google to "newspapers, guidebooks, and encyclopedias").

260. *Id.* (quoting *Hurley v. Irish-Am. Gay, Lesbian & Bisexual Grp. Of Bos.*, 515 U.S. 557, 575 (1995)).

261. Oren Bracha & Frank Pasquale, *Federal Search Commission? Access, Fairness, and Accountability in the Law of Search*, 93 CORNELL L. REV. 1149, 1194 (2008) ("[T]he speech manifest in rankings seems more similar to the uncovered speech in an aircraft navigational chart than to the paradigmatic expression protected in cases involving newspapers.").

262. As mentioned previously, censorial motive can independently trigger First Amendment coverage. See *supra* note 23.

263. Bracha & Pasquale, *supra* note 261, at 1193.

element, Bracha and Pasquale assert that Google's search rankings do not realize any First Amendment values.<sup>264</sup> Bracha and Pasquale therefore advocate for treating search results as ordinary products, like charts and maps, that are outside of First Amendment coverage.<sup>265</sup>

Unfortunately, neither approach is entirely satisfying. Volokh and Falk's analogy of Google to newspaper publishers misconceives the respective role that search engines and newspapers play in our society. As Tim Wu and others have pointed out, Google search fulfills a social function different from that of traditional publishers.<sup>266</sup> A newspaper consciously "selects and endorses its articles" and often "commissions their authorship in the first place."<sup>267</sup> Its purpose is to "communicate ideas, stories, impressions, and viewpoints to its audience."<sup>268</sup> A newspaper publisher's editorial decisions present a vision of what matters (or should matter) to that newspaper's audience, and readers of the paper attribute that selection to the publisher. Take the famous slogan of *The New York Times*: "All the News That's Fit to Print." Deciding what news is "fit to print" is part of the *Times*'s participation in public opinion formation.<sup>269</sup> This is why we treat newspapers as a quintessential part of public discourse.

The same is not true for Google. Google search results satisfy a social purpose different from that of newspapers, and the way we relate to newspapers is different from the way we relate to Google. Google largely operates more as a carrier of information than an intentional curator of public opinion. Google's purpose is typically to help users locate information that is most relevant to a search query and to increase the probability that users click on various links. And unlike a traditional publisher, Google often affirmatively disavows the views expressed in the content it carries. Indeed, Google takes advantage of statutory immunities

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264. *Id.* at 1193–94 (“[T]he speech of search engines in these cases is not a form of social interaction that realizes First Amendment values.”).

265. *Id.*; *see also id.* at 1194 n.238 (“Search engines may be thought to provide a ‘map’ of the web, a guide to the sights that are most and least relevant to a searcher's query.”).

266. Tim Wu, *Machine Speech*, 161 U. PA. L. REV. 1495, 1528–30 (2013); *see also* James Grimmelman, *Speech Engines*, 98 MINN. L. REV. 868, 920–23 (2014); Bracha & Pasquale, *supra* note 261, at 1193–99.

267. Wu, *supra* note 266, at 1528.

268. *Id.* at 1530.

269. *The New York Times* is, of course, not the only publisher that participates in public discourse through its editorial judgments. Even tabloids and “clickbait” websites can participate in public opinion formation in the same way. While the *National Inquirer* may lack the journalistic bona fides of *The New York Times*, the *Inquirer* also selects articles to publish based on its vision of what matters to the public, just as the *Times* does. It is a hallmark of public discourse that we might discuss the latest celebrity gossip in the same breath as the latest foreign policy developments.

that relieve the company of legal responsibility for the content that flows through its platform.<sup>270</sup>

Even accepting that Google’s search rankings are its “opinion” does not by itself elevate Google’s activities to public discourse. Many kinds of acts involve the expression of an opinion and are not protected as public discourse. Stocking shelves at a grocery store reflects the considered editorial judgment of the stocker in selecting which items to display and where to display them. Those decisions could reasonably be called the “opinion” of the store about what is likely to sell that week, yet the First Amendment does not protect the store’s stocking choices.<sup>271</sup> State and federal regulations can dictate where cigarettes must be sold even if the store has another opinion about where they should be placed.<sup>272</sup> Another example is a lawyer’s opinion letter. These letters represent a lawyer’s *opinion* about a legal issue, but the letters are nevertheless held to professional standards.<sup>273</sup> If a speech act could be insulated from regulation merely by being branded an “opinion,” such letters could escape malpractice liability.

The key point is that Google’s search rankings, like opinion letters and stocking decisions, do not embody the social function we ordinarily associate with public discourse. Google produces its search rankings as its product, not as its “voice.” In this way, Google does not participate in public discourse through the exercise of democratic power. As Bracha explains, the “specific social practice of search ranking is not directly part of social practices relevant for democratic self-governance.”<sup>274</sup> Google’s search results are not dialogic, nor are they understood as an effort to participate in self-governance or influence the set of priorities for the state. Because the practice of ranking search results does not implicate these values, it cannot be protected by the First Amendment as public discourse.

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270. See 47 U.S.C. § 230(c)(1) (providing online platforms with a broad immunity from liability); 17 U.S.C. § 512(d) (providing a similar safe harbor from copyright liability).

271. See *Lorillard Tobacco Co. v. Reilly*, 533 U.S. 525, 569 (2001).

272. See *id.* at 568–70 (holding that a state regulation requiring storeowners to place tobacco products behind counters withstands First Amendment scrutiny).

273. See, e.g., *Milavetz v. United States*, 559 U.S. 229, 252 (2010) (upholding a law prohibiting lawyers and others from advising clients to incur more debt in contemplation of filing for bankruptcy); *Padilla v. Kentucky*, 559 U.S. 356, 369 (2010) (finding that lawyers have a duty to inform a noncitizen that his plea would make him eligible for deportation); Treasury Department Circular No. 230, 31 C.F.R. §§ 10.35, 10.37 (2014) (setting out the strict requirements governing tax opinions written by lawyers); Cf. Robert Post, *Reconciling Theory and Doctrine in First Amendment Jurisprudence*, 88 CALIF. L. REV. 2353, 2364 (2000) (“[C]ontent-based regulation of speech is routinely enforced without special constitutional scrutiny, as for example when lawyers or doctors are held liable in professional malpractice for the communication of irresponsible opinions.”).

274. Oren Bracha, *The Folklore of Informationalism: The Case of Search Engine Speech*, 82 FORDHAM L. REV. 1629, 1668 (2014).

Despite my reservations about Volokh and Falk's approach, the opposing framework also is not fully convincing. Bracha and Pasquale argue that the First Amendment does not cover the practice of ranking and ordering search results at all.<sup>275</sup> But while I agree with their point that search engine results do not "have any *intrinsic* value relevant to the First Amendment,"<sup>276</sup> that fact alone is not sufficient to explain why Google's search listings should be categorically excluded from First Amendment coverage. Just because search rankings in the abstract do not operate as public discourse does not mean that search results can never implicate First Amendment values.

The authors themselves admit that search engine outputs can trigger constitutional interests. For instance, they acknowledge that search engine rankings can "play a central instrumental role in facilitating effective speech by others."<sup>277</sup> As such, they suggest that government attempts to ban all search engines or to mandate that search engines filter certain content likely would trigger First Amendment coverage.<sup>278</sup> However, even with these concessions, Bracha and Pasquale's theory does not adequately account for how Google might use its search rankings in ways that further First Amendment values.

For instance, consider a law that prevents Google from displaying certain truthful information about the COVID-19 vaccine in its search results. Such a restriction would present a significant First Amendment issue because it implicates the public's interest in receiving accurate information. But under Bracha and Pasquale's model, it is not certain that the First Amendment would come into play in such a case unless there were some evidence of illegitimate government motive.

So, if Google's search results are neither public discourse nor ordinary products, what function do Google's listings serve? The most convincing account of Google search results is that they further the value of democratic competence. That is, search listings are communicative acts that primarily function to communicate knowledge to the public, which informs public opinion and enhances the competency of democratic decision-making.

Consider the role that search engines play in our modern society. They primarily deliver users relevant information based on a query. A search engine tries to locate pertinent information and provide answers to an audience: the user. As Google self-describes, its mission is to "organize

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275. See *supra* notes 264–68 and accompanying text.

276. Bracha & Pasquale, *supra* note 261, at 1199.

277. *Id.* Bracha and Pasquale do acknowledge that "blatant attempts to use search engines as agents of censorship schemes" would contravene the First Amendment. *Id.* at 1200. This is simply a recognition that a censorial purpose independently triggers First Amendment coverage.

278. *Id.* at 1199–200.

the world's information and make it universally accessible and useful."<sup>279</sup> Google's use of relevance as a criterion is best seen as an act of the market rather than an act of democratic participation. The considerations at stake are first and foremost listener-based rather than speaker-based.<sup>280</sup> The reasons we might be concerned about state interference in Google's search results have nothing to do with Google's autonomy as a speaker and everything to do with the public's interests as an audience. What this tells us is that we should be wary when Google and other search engine companies advance First Amendment arguments based on their own interests as speakers. While search engine results may be covered by the First Amendment in some instances, this coverage is likely grounded only in its relation to the rights of its users.

If this approach is correct, the government would be permitted to impose legal liability on search results that are false or misleading without triggering the First Amendment. In the context of a Google search, a misleading result or ranking might be one that lacks "relevance" to the user's query. For instance, if Google modified its search algorithm to systematically favor its own search results and disfavor those of its competitors without notice to the user, the subsequent search listings would be misleading or deceptive because they would not reflect the most pertinent answers to the user's questions. In this way, they distort the accuracy of the information provided to the listener. If the government intercedes to correct such distortions, it should not raise a First Amendment problem. Similarly, Google would not enjoy the kind of automatic immunity from antitrust or business tort suits that it claims to possess now.

On the flip side, viewing search rankings through the lens of their informational function would still permit courts to bring in the First Amendment when the government interferes with the value of democratic competence. In certain circumstances, search results might implicate the same First Amendment values as commercial speech or professional speech.<sup>281</sup> Thus, laws that block Google from communicating relevant

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279. HOW GOOGLE SEARCH WORKS, <https://www.google.com/search/howsearchworks/mission/> [<https://perma.cc/LJ98-EQ52>] (last visited Oct. 15, 2021); *see also* ABOUT GOOGLE, <https://about.google/> [<https://perma.cc/8S9P-KJYM>] (last visited Oct. 15, 2021).

280. James Grimmelman, *Listeners' Choice*, 90 U. COLO. L. REV. 365, 379 (2019) ("Search engines are highly listener directed . . ."); *see also* Grimmelman, *supra* note 266, at 931 n.304 (postulating that "search rankings are covered speech because of their value to listeners").

281. To be clear, I do not think that search results *are* commercial speech. They do not propose a commercial transaction or relate to Google's advertising or marketing. The separate question of whether search results might be a kind of professional speech is an interesting one. We do not currently understand Google as providing professional advice in the same way as a doctor or lawyer. However, adopting something like an information fiduciary model for search platforms—as Jack Balkin and James Grimmelman have

results to users or that compel Google to promote false or misleading information would appropriately raise a First Amendment question.

Search rankings and commercial speech trigger the same First Amendment value and thus may call for a similar framework for constitutional review. So, when the government seeks to place restrictions on the content or ranking of search results, courts might apply a standard akin to the intermediate scrutiny test of *Central Hudson*, which requires that the government's regulation directly advance and be tailored to a substantial government interest.<sup>282</sup> This test is appropriate because *Central Hudson* is expressly grounded in the "informational function" of speech.<sup>283</sup> Under the same logic, government compulsions relating to search results might be evaluated under a *Zauderer*-like standard.<sup>284</sup> This would permit the government to require Google to include in its search results certain "purely factual and uncontroversial information about the terms under which [its] services will be available" as long as the "disclosure requirements are reasonably related to the State's interest in preventing deception of consumers."<sup>285</sup> As an example, the government might, in some circumstances, compel Google to disclose to the user when a search result has been artificially boosted without offending the First Amendment. A test focused on listeners' interests could protect Google's ability to make choices regarding its search algorithm and outputs while preserving the government's power to enact and enforce consumer-protective regulations.<sup>286</sup>

Finally, it is worth reexamining the arguments advanced by the face recognition company Clearview in its First Amendment defense to the ACLU's lawsuit alleging violations of Illinois's biometric privacy law.

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suggested—might justify treating search results as a kind of professional speech. Grimmelmann, *supra* note 266, at 904–06 (discussing the fiduciary-like nature of search engines); Jack M. Balkin, *Information Fiduciaries and the First Amendment*, 49 U.C. DAVIS L. REV. 1183, 1205–09 (2016) (discussing the fiduciary qualities of digital platforms that collect user data).

282. See *Cent. Hudson Gas & Elec. Co. v. Pub. Serv. Comm'n*, 447 U.S. 557, 564–66 (1980) (describing test).

283. *Id.* at 563.

284. See *Zauderer v. Off. of Disciplinary Couns.*, 471 U.S. 626, 651 (1985) (noting the standard).

285. *Id.*

286. My conclusion that Google's ranking of search results might be best evaluated under a listener-based First Amendment framework should not suggest that all of Google's activities with respect to its search results must be treated in this way. Google may very well act in ways that contribute to public discourse. For example, if Google were to attach labels to search results indicating when it thinks results may be misleading or deceptive, we might understand those labels as Google's public commentary on its results. See *Find Fact Checks in Search Results*, GOOGLE SEARCH HELP, <https://support.google.com/websearch/answer/7315336?hl=en> [<https://perma.cc/3T5Q-68VH>] (last visited Nov. 26, 2021). Government attempts to restrict or modify how Google generates these labels could implicate Google's interests as a speaker.

Among other things, Clearview asserted that its service was fully protected by the First Amendment because Clearview “is a search engine.”<sup>287</sup> However, using the lens of democratic power, we can see that Clearview’s argument rings hollow.

Clearview’s proprietary face recognition system does not serve the same function in our society as Google’s search engine, much less a newspaper. The social meaning of Clearview’s activity cannot be understood to further democratic legitimation or democratic competence. Indeed, in the context of its lucrative business relationships with its narrow set of customers, Clearview’s product does not seem to implicate any of the First Amendment’s democratic values at all. Thus, its First Amendment claim does not even rise to the level of *Central Hudson*’s intermediate scrutiny test and certainly should not be evaluated under strict scrutiny, as the company seems to suggest.<sup>288</sup> Properly understood, Clearview’s challenge to BIPA may not demand *any* First Amendment analysis at all.

The preceding paragraphs are meant only to lay out one idea for conceptualizing search engine results within the framework of First Amendment values. The ultimate judgment of the right conditions for First Amendment coverage and the resulting test for First Amendment protection will depend on how we understand the role of search engines in our society. This understanding is subject to change as our relationship with technology changes. Depending on whether we view Google or other “search engines” as contributing to public opinion, as disseminating knowledge, or as simply providing an ordinary product, the First Amendment analysis will differ.

### C. Code Used as an Ordinary Product

Many—perhaps most—communicative acts do not implicate any First Amendment value and will not raise a First Amendment question at all. In these contexts, the communications function as ordinary products. The paradigmatic example is the navigational chart. Even though navigational charts communicate a clear message—for instance, the

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287. Clearview’s Motion to Dismiss, *supra* note 98, at 17. Notably, in its recent opinion and order denying Clearview’s motion to dismiss, the Illinois trial court did not address Clearview’s separate contention that BIPA implicates Clearview’s First Amendment right to exercise editorial judgment as a search engine operator. *See* Opinion Denying Clearview’s Motion to Dismiss, *supra* note 101, at 8–10.

288. This is not to say that a privacy law like BIPA might *never* raise a First Amendment question. For instance, a journalist who uses face recognition to identify a police officer engaged in misconduct during a protest without that officer’s consent might properly have an as-applied challenge to restrictions on their use of that software.

location of certain points of interest or various technical data—courts typically do not treat such charts as covered by the First Amendment.<sup>289</sup>

When a chart is found to be defective and causes injury, courts impose tort liability on the chart maker without reference to any First Amendment analysis.<sup>290</sup> This is because navigational charts do not further any value of the First Amendment.<sup>291</sup> They neither function as public discourse nor facilitate democratic competence. Instead, we understand navigational charts to speak “monologically to their audience” and invite users to “assume a position of dependence.”<sup>292</sup> Communications such as wills, contracts, and court filings operate in a similar way and are likewise not “speech” within the meaning of the First Amendment.<sup>293</sup>

Distinguishing communications that function as ordinary products from communications that function as public discourse is not a trivial task. A prime example is the Ninth Circuit’s decision in *Winter v. G.P. Putnam’s Sons*,<sup>294</sup> in which several mushroom enthusiasts sued the publishers of *The Encyclopedia of Mushrooms* after they relied on information found in the book and were injured by consuming poisonous mushrooms.<sup>295</sup> Although the book was found to provide inaccurate information regarding the mushrooms the plaintiffs ate, the Ninth Circuit held that the First Amendment precluded the publishers from liability.<sup>296</sup>

What distinguishes a defective book about mushrooms—which is immunized from liability—from a faulty navigational chart—which does not trigger the First Amendment? The Ninth Circuit explained that imposing liability for *The Encyclopedia of Mushrooms* would substantially burden “the unfettered exchange of ideas” safeguarded by the First Amendment.<sup>297</sup> The court understood the mushroom book as

289. See Bracha & Pasquale, *supra* note 261, at 1194.

290. See *Brocklesby v. United States*, 767 F.2d 1288, 1294–95 (9th Cir. 1985) (finding an inaccurate aeronautical chart defective for purposes of products liability law); *Saloomey v. Jeppesen & Co.*, 707 F.2d 671, 676–77 (2d Cir. 1983) (finding the navigational chart in question defective without engaging in any First Amendment analysis); *Aetna Cas. & Sur. Co. v. Jeppesen & Co.*, 642 F.2d 339, 342–43 (9th Cir. 1981) (same).

291. Post, *supra* note 18, at 1274 (“Navigation charts for aircraft do not constitutionally register as speech because we perceive them as imbued with the same constitutional value as any other goods for sale in the marketplace.”).

292. See *id.*

293. See Wu, *supra* note 266, at 1497 (“[C]ourts do not normally protect tools—works whose use of information is purely functional, such as navigational charts, court filings, or contracts.”); *id.* at 1523 (“[T]he same rationale [applies to] legal documents like contacts, wills, commercial paper, and the like . . .”).

294. 938 F.2d 1033 (9th Cir. 1991).

295. *Id.* at 1033–34.

296. *Id.* at 1034–36 (“[W]e decline to expand products liability law to embrace the ideas and expression in a book.”).

297. *Id.* at 1035.

facilitating a kind of dialogue with the user rather than an instruction imposing a reliance interest on the reader.<sup>298</sup> That is, the court imagined the mushroom book as part of public discourse, where “there is no such thing as a false idea.”<sup>299</sup> Thus, the key consideration in distinguishing between ordinary products and public discourse is the social context surrounding the practice at issue.

The same idea applies to code.<sup>300</sup> If a use of code is not concerned with facilitating the formation of public opinion or disseminating useful information to the public, such a use of code functions as an ordinary product. Absent a censorial government motive, regulations of such uses of code will not trigger the First Amendment.

Perhaps the clearest example of code used as an ordinary product is code that is employed to operate an automated tool or appliance. Consider, for instance, an AI-controlled lawnmower that uses code to direct where the lawnmower will go next. If, through a defect in the software’s design, the lawnmower runs over your foot and injures you, the traditional law of products liability would apply without the First Amendment ever being implicated. The fact that the product defect happens to involve code should not immunize the creator of the lawnmower from tort liability. This is because the code at issue is not being used as public discourse, nor is it used to communicate knowledge to the public. Instead, the lawnmower functions as an ordinary product that happens to be mediated through the language of code. Asserting that the government is free to suppress this faulty lawnmower code without triggering the First Amendment should be entirely uncontroversial.

A more contentious example concerns the dissemination of digital blueprints for 3D-printed firearms. In *Defense Distributed v. United States*

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298. Compare *id.* at 1036 (“Aeronautical charts are highly technical tools. They are graphic depictions of technical, mechanical data.”), with *id.* (“*The Encyclopedia of Mushrooms* is . . . pure thought and expression.”).

299. *Gertz v. Robert Welch, Inc.*, 418 U.S. 323, 339 (1974).

300. Some scholars have argued that functionality should be the primary determinant of whether a communication is an ordinary product outside of First Amendment coverage. See Wu, *supra* note 266, at 1497 (“[C]ourts do not normally protect tools—works whose use of information is purely functional, such as navigational charts, court filings, or contracts.”); *id.* at 1523 (explaining that tools are not covered by the First Amendment because they “don’t simply express a view, or even cause some effect, but accomplish something by their very utterance”); see also Bracha & Pasquale, *supra* note 261, at 1193–94 (comparing Google search results to aircraft navigational charts because their “dominant function is not to express meaning but rather to ‘do things in the world’”). However, this view is hard to square with the nature of computer code. All code is functional and accomplishes something by its very utterance. But even when a regulation is aimed only at code’s functional attributes, it inherently restricts code’s expressive attributes. Code—a textual work that is both expressive and functional in the same instance—shows us why functionality alone cannot be the dividing line for coverage. Focusing the analysis on the social context and meaning of uses of code produces a more satisfying First Amendment framework than focusing solely on functionality.

*Department of State*,<sup>301</sup> a defense contractor called Defense Distributed posted code on its website—in the form of computer-aided design (CAD) files—that can produce a 3D-printable handgun.<sup>302</sup> When the State Department subsequently sought to prevent the distribution of these files, Defense Distributed sued, arguing that its files were speech protected by the First Amendment.<sup>303</sup>

Like Daniel Bernstein, Defense Distributed portrayed its files as part of its participation in public discourse. The company argued that its code was its “speech concerning fundamental constitutional rights”—namely, guns.<sup>304</sup> But this comparison elides critical distinctions between the two contexts. Bernstein was engaged in academic discussion, and his code was part of his contribution to academic discourse.<sup>305</sup> Defense Distributed, however, was trafficking blueprints for firearms, not engaging in any kind of democratic deliberation. There is a difference between advocating for drug legalization and actually trafficking in drugs. In the same way, there is a difference between advocating for access to 3D-printed weapons and actually disseminating the code to produce those weapons.

In this sense, Defense Distributed did not “speak” through its dissemination of code at all. Nothing about the organization’s actions suggested that its purpose in posting the digital blueprints for the gun was to participate in discourse about how to construct code for 3D printing. In fact, that Defense Distributed shared the code on its website in order to make it available for use rather than for conversation is quite clear.<sup>306</sup> In the latter case, the First Amendment has no role to play because the code at issue functions as an ordinary product.

The analysis might be different in a different social context. For instance, suppose there is a global public chat server where programmers come together to debate ideas about how to design 3D-printed objects, including firearms. If CAD files were disseminated in that chat room for the purpose of discussion, a court might reasonably see this act as a contribution to public discourse. Like in *Bernstein*, the code is shared for the purpose of exchanging ideas and not for the purpose of making it available for use. If the State Department sought to subject this act to the

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301. 121 F. Supp. 3d 680 (W.D. Tex. 2015).

302. *See id.* at 687–88.

303. *Id.* at 691.

304. *See* Brief for the Appellants at 22, *Def. Distributed v. U.S. Dep’t of State*, 838 F.3d 451 (5th Cir. 2016) (No. 15-50759) (suggesting that 3D-printed gun files are “speech concerning fundamental constitutional rights”).

305. *See Bernstein v. U.S. Dep’t of Just.*, 176 F.3d 1132, 1135–37 (9th Cir. 1999); *see also Junger v. Daley*, 209 F.3d 481, 483–84 (6th Cir. 2000) (involving a similar issue and conclusion).

306. *See* DEFENSE DISTRIBUTED, <https://defdist.org/> [<https://perma.cc/8N64-DQZU>] (last visited Apr. 13, 2020) (describing the organization as a “private defense contractor” that engages in “private defense tech development”).

same export control restrictions it attempted to impose on Defense Distributed, the department probably would need to satisfy some First Amendment scrutiny. This is not to say that the regulation would be per se unlawful, but only that the First Amendment would be relevant to the constitutional analysis.

Of course, distinguishing between when code is disseminated in the process of discussion and when it is disseminated for use may be difficult at times. The answer depends on the social context and conventions surrounding the act, which can be subject to differing interpretations.

Consider, for instance, the circumstances in *Corley*. In that case, Eric Corley claimed that he posted the source code for the DeCSS software as part of his website's coverage of the ongoing legal battle over the DMCA and circumvention technologies.<sup>307</sup> He essentially argued that his code was part of his contribution to the public debate over intellectual property protections in the digital age.<sup>308</sup> But it is unclear from the record if sharing the source code—as opposed to talking about the code—was necessary to facilitate Corley's contribution to public discourse. Whether or not the First Amendment protects Corley's actions should depend on whether Corley's act is best understood as distributing software or distributing ideas. The “answer” to this question is not obvious and requires a deeper analysis of the context surrounding the dissemination of the code in question and the social practices of the community with which Corley hoped to engage.

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To be sure, the framework I propose may raise many difficult and complex questions. My approach certainly lacks the attractive simplicity of a rule like “code is speech.” However, as appealing as abstract and broad statements of First Amendment coverage may be, they leave little room for the thoughtful deliberation required to navigate the line between protecting too much as “speech” and protecting too little. If we are to make any progress at all in shaping a more principled and sensible First Amendment doctrine for the digital age, courts must embrace a more nuanced approach that is rooted in the values that the First Amendment was designed to serve. Only by carefully considering the constitutional interests that are at stake each time that code is used to communicate can courts achieve outcomes that are practically and doctrinally satisfying. Where the First Amendment is concerned, this juice is worth the squeeze.

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307. *Universal City Studios, Inc. v. Corley*, 273 F.3d 429, 435–36 (2d Cir. 2001).

308. *See id.* at 436.

## CONCLUSION

As I have argued throughout this Article, the prevailing approach to the First Amendment and code is fundamentally flawed. The rule that “code is speech” and other expansive theories of First Amendment coverage for code are simply ill-suited for the realities of the modern world. So much of our modern lives are inescapably mediated through software and digital technologies, and code flows through nearly all of our daily interactions. Adding a constitutional valence to every one of these commonplace activities is a dangerous proposition. It would lead to a First Amendment jurisprudence that is unwieldy, incoherent, and fundamentally unmoored from its democratic values.

The consequences of such an approach would be grim. It would give opportunistic litigants free rein to exploit the First Amendment and permit corporate interests to insulate their private power from public accountability and control. It would undermine the government’s role in crafting sensible and appropriate policies that protect consumers and serve the public. Remaining on this path could set the First Amendment on a collision course with the very ideals it was designed to safeguard in the first place. It is both sad and ironic that our cherished free speech tradition, which is intended to sustain and invigorate our democracy, might instead become a weapon to subvert it.

As courts are called upon in the coming years to address important issues that will shape the contours of governance in the digital age, it will become all the more urgent to unearth a First Amendment doctrine that actually makes sense for the modern world. To do this, we must reject abstract and categorical rules like “code is speech,” which shut down reasoned thinking, and instead start down the difficult road of building a First Amendment jurisprudence that is more grounded in the democratic values that the First Amendment was meant to protect in the first place. Addressing these questions is critical, not just for the future of governance, but for the future of free speech.