
ARTICLE

MACHINE SPEECH

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INTRODUCTION

Computers are making an increasing number of important decisions in our lives. They fly airplanes, navigate traffic, and even recommend books. In the process, computers reason through automated algorithms and constantly send and receive information, sometimes in ways that mimic human expression. When can such communications, called here “algorithmic outputs,” claim First Amendment protection?

The question of “rights for robots,” if once limited to science fiction, has now entered the public debate. In recent years, firms like Verizon and Google have relied on First Amendment defenses against common-law and regulatory claims by arguing that some aspect of an automated process is speech protected by the Constitution.¹ These questions will only grow in importance as computers become involved in more areas of human decision-making.

A simple approach, favored by some commentators, says that the First Amendment presumptively covers algorithmic output so long as the program seeks to communicate some message or opinion to its audience.² But while simplicity is attractive, so is being right. In practice, the approach yields results both absurd and disruptive;³ the example of the car alarm shows why. The modern car alarm is a sophisticated computer program that uses an algorithm to decide when to communicate its opinions, and when it does it seeks to send a particularized message well understood by its audience. It meets all the qualifications stated: yet clearly something is wrong with a standard that grants Constitutional protection to an electronic annoyance device. Something is missing.

The big missing piece is functionality. More specifically, what’s being overlooked is the differential treatment courts should accord communications closely tied to some functional task. A close reading of the relevant cases suggests that courts, in fact, limit coverage in a way that reserves the power

¹ See, e.g., *Recording Indus. Ass’n of Am., Inc. v. Verizon Internet Servs., Inc.*, 351 F.3d 1229, 1231 (D.C. Cir. 2003) (declining to address Verizon’s First Amendment arguments against the subpoena provisions of the Digital Millennium Copyright Act); *Search King, Inc. v. Google Tech., Inc.*, No. 02-1457, 2003 WL 21464568, at *4 (W.D. Okla. May 27, 2003) (finding that Google PageRanks are entitled to “full” First Amendment protection).

² This position is best represented by *Search King*, 2003 WL 21464568, at *4. This approach derives from *Spence v. Washington*, 418 U.S. 405 (1974) (per curiam). Stuart Benjamin relies on a similar standard in *Algorithms and Speech*, 161 U. PA. L. REV. 1445 (2013). See also EUGENE VOLOKH & DONALD FALK, FIRST AMENDMENT PROTECTION FOR SEARCH ENGINE SEARCH RESULTS 6-7 (2012), available at <http://www.volokh.com/wp-content/uploads/2012/05/SearchEngineFirstAmendment.pdf> (arguing that the First Amendment protects Google’s search results).

³ See *infra* notes 154-66 and accompanying text.

of the state to regulate the functional aspects of the communication process, while protecting its expressive aspects.⁴ Here, I go further and suggest that the law contains a de facto functionality doctrine that must be central to any consideration of machine speech.

The doctrine operates in two distinct ways. First, courts tend to withhold protection from carrier/conduits—actors who handle, transform, or process information, but whose relationship with speech or information is ultimately functional. Definitive examples are Federal Express or the telephone company, common carriers to whom the law does not grant speech rights. Those who merely carry information from place to place (courier services) generally don't enjoy First Amendment protection, while those who select a distinct repertoire, like a newspaper or cable operator, do. Similarly, those who provide the facilities for job interviews are not recognized as speakers, nor are the manufacturers of technologies that record or transform information from one form into another—like a typewriter, photocopier, or loudspeaker.⁵

Second, courts do not normally protect tools—works whose use of information is purely functional, such as navigational charts, court filings, or contracts. The reasons are complex, and related to a broader nonprotection of information that by its very communication performs some task. In the words of language philosophers these are “speech acts,” “illocutionary acts,” or “situation-altering utterances.” The broader category includes the communications embodied in criminal commands, commercial paper, nutritional information, and price-fixing conspiracies.⁶

Combined, these two tendencies form a de facto functionality doctrine, which, as we shall see, is central to understanding the First Amendment in the context of algorithmic output (and, thankfully, excludes car alarms from the protections of the Constitution). For one thing, in many cases the fact that an algorithm makes the decisions in software cases is in tension with the requirement of knowing selection or intimate identification. Other times, algorithmic output falls into the category of communication that acts by its very appearance.⁷ Warnings, status indications, directions, and similar signals are common outputs for computer software in this category. These outputs act to warn or instruct and are therefore similar analytically to something like a criminal command or conspiracy.

⁴ See *infra* subsections III.B.1–2.

⁵ See *infra* subsection III.B.1.

⁶ See *infra* subsection III.B.2.

⁷ See *infra* Section IV.A.

In an area as complex as this, a rule of thumb might be useful. Generally, we can distinguish software that serves as a “speech product” from that which is a “communication tool.” Communication tools fall into the categories just described: they primarily facilitate the communications of another person, or perform some task for the user. In contrast, speech products are technologies like blog posts, tweets, video games, newspapers, and so on, that are viewed as vessels for the ideas of a speaker, or whose content has been consciously curated.

The boundary between one and the other may be imperfect, but it must be drawn somewhere if the First Amendment is to be confined to its primary goal of protecting the expression of ideas, and if we are to prevent its abuse. If a software designer is primarily interested in facilitating some task for the user, he will be unlikely to have the space to communicate his own ideas. At a minimum, his ideas must bend to operations. Thus, the intent is not to communicate ideas, or, as the Supreme Court puts it, “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.”⁸

In what follows, I introduce these ideas more thoroughly and, along the way, consider the speech status of blogging and microblogging software like Twitter, GPS navigation software, search engines, and automated concierges. The importance of these matters cannot be overstated. Too little protection would disserve speakers who have evolved beyond the printed pamphlet. Too much protection would threaten to constitutionalize many areas of commerce and private concern without promoting the values of the First Amendment.

I. THE PROBLEM

Humans have long created machines capable of responding to external conditions in a manner that resembles a decision. The thermostat, a device that controls the temperature of a room, might be said to decide when to turn on or off a heater. Automatic transmission might similarly be said to decide when to switch gears.

Over the last century, such machine decisionmaking has become much more sophisticated, as has the expression of its results. In the past, computers communicated the results of their processes to humans with simple lights, dials, or sounds. Today, machines express outputs in forms easily understood by humans: words on a screen, pictures, or speech. This is analogous

⁸ *Joseph Burstyn, Inc. v. Wilson*, 343 U.S. 495, 501 (1952) (footnote omitted).

to the difference between an oven that beeps when it reaches a desired temperature, and a GPS device that verbally instructs its user how to get home. In communications theory terms, both are signals.⁹ The latter, however, is more readily described as “speech” because it is translated into language and mimics human expression.

To further flesh out the problem of automated reasoning, it might help to consider the following examples of algorithms, computerized or otherwise, that function in twenty-first-century life in arguably expressive ways:

1. A computerized car alarm, when active, monitors the inputs of various shock sensors and motion detectors, and, on that basis, decides whether to sound a warning or a full alarm.
2. A computerized antilock braking system, noticing that brakes are in danger of locking, overrides a braking decision and reduces braking force on a wheel about to lock, signaling such by vibrating the brake pedal.
3. Apple’s navigation program, based on available routes and traffic data, suggests the fastest way to drive from Hyde Park to O’Hare Airport.
4. Google decides which web links and other information to display in response to queries like “NFL schedule” and “Rosh Hashanah.”¹⁰
5. Facebook, based on a user’s specified interests (say “motorcycles” and “travel”), decides which ads to display to that user.
6. Amazon chooses books to recommend to a customer based on the fact that other people bought books similar to ones the customer already purchased.
7. Apple’s automatic DJ program personalizes a playlist for users based on the songs they own.
8. In the course of a computer game, a computer-generated villain decides to fire a missile to kill the human-controlled player.

In all of these examples, a computer, following a program or algorithm, decides among several alternatives, and expresses that choice in a manner understandable to a human. As such, it creates a narrow but vexing category of expression.

⁹ See ROLAND PRIEMER, *INTRODUCTORY SIGNAL PROCESSING 1* (1991) (defining a “signal” as “a function that conveys information about the behavior of a system or attributes of some phenomenon”).

¹⁰ According to Google, these two phrases were popular search terms entered into its engine on September 17, 2012. *Trends*, GOOGLE, <http://www.google.com/trends/hottrends> (Sept. 17, 2012).

II. BOUNDARIES

The main goal of this Part is to specify the conditions under which the First Amendment is triggered by algorithmic output. I do not present a new descriptive theory in this Part. Rather, the goal is to describe what generally triggers constitutional scrutiny.

It is important to clarify the meaning of “trigger.” Courts face two distinct questions when determining whether a law violates the First Amendment. The first is whether the First Amendment is even relevant—that is, whether the law should even be evaluated with respect to the standards of scrutiny imposed by the First Amendment. Scholars refer to this as a question of “coverage.” Second, courts may ask whether the law survives scrutiny. This is the question of “protection.” For the purposes of this paper, the First Amendment is triggered when the relevant speech act is “covered.”¹¹

The lines that demarcate coverage under the First Amendment often must be inferred, as they are only sometimes discussed explicitly. Consider four such lines. First, along one dimension, a “person” must claim any constitutional right, which includes those in the First Amendment. Second, only communications that qualify as “speech” gain First Amendment protections. Third, in nearly any case, an illicit censorial “motivation” on the part of the Government can trigger the First Amendment, even if the communications at issue would not otherwise be covered. Finally, sometimes courts find that a law does not actually affect speech because, perhaps by the law’s very nature, it tends to promote it. For want of a better term, this can be understood as an “abridgement” jurisprudence; some laws simply are not of a nature that abridge speech, and therefore do not activate First Amendment analysis.

Each of these lines—personhood, speech, motive, and abridgement—is relevant to the problem of computer program output. I consider each in turn.

A. Personhood

The famous case of *Blackie the Talking Cat*¹² frames the personhood issue. Blackie was a cat trained by his owners to speak various English sentences

¹¹ See FREDERICK SCHAUER, FREE SPEECH: A PHILOSOPHICAL ENQUIRY 90 (1982) (“[W]hen we say that certain acts, or a certain class of acts, are covered by a right, we are not necessarily saying that those acts will always be protected. We are saying only that these acts have a facial claim to be considered with reference to the reasons underlying the decision to put those acts within the coverage of a right.”).

¹² *Miles v. City Council*, 710 F.2d 1542 (11th Cir. 1983).

(like “I love you”).¹³ Carl and Elaine Miles asked for donations from those who enjoyed Blackie’s discourse. The City of Atlanta demanded that he operate pursuant to a business license. The Mileses asserted (among other claims) that the City’s demand infringed Blackie’s rights under the First Amendment.¹⁴

Ruling against Blackie, the court dismissed the cat’s First Amendment claims and held that

[t]his Court will not hear a claim that Blackie’s right to free speech has been infringed. First, although Blackie arguably possesses a very unusual ability, he cannot be considered a “person” and is therefore not protected by the Bill of Rights. Second, even if Blackie had such a right, we see no need for appellants to assert his right *jus tertii*. Blackie can clearly speak for himself.¹⁵

It should be clear that a computer and Blackie are similar. Neither is human, and both have been trained to express themselves in a way that is informative or entertaining to humans. As such, *Blackie the Talking Cat* is indicative of one way that courts treat nonhumans who generate what resembles human speech: not very seriously.¹⁶ The approach taken toward intelligent animals would generally deny all rights in a case where a nonhuman is the would-be speaker.

The presumption in *Blackie*—that the identity of the speaker matters for the First Amendment—is also reflected by courts’ treatment of children and young adults. Judicial decisions in the last four decades suggest that young people have First Amendment rights, but fewer than those of adults. The Supreme Court, for example, has permitted various forms of censorship of students that would violate the First Amendment if practiced against adults. This rule is evident in one of the many high school speech cases, *Hazelwood School District v. Kuhlmeier*.¹⁷ A high school newspaper planned to publish controversial articles about teenage pregnancy and the effect of parental

¹³ *Id.* at 1543.

¹⁴ *Id.*

¹⁵ *Id.* at 1544 n.5.

¹⁶ Animals who have claimed protections of other constitutional rights have also been unsuccessful in court. *See, e.g.,* Tilikum v. Sea World Parks & Entmt, Inc., 842 F. Supp. 2d 1259, 1263 (S.D. Cal. 2012) (holding that the Thirteenth Amendment applies only to persons and not to orca whales). On the other hand, some states have passed laws banning surgery to silence pets. *E.g.,* MASS. GEN. LAWS ANN. ch. 272, § 80(b) (West 2012).

¹⁷ 484 U.S. 260 (1988). The rule is also manifest in *Broussard v. School Board of City of Norfolk*, in which the court held that a middle school administrator could prohibit a student from wearing a shirt displaying the word “suck” without violating the First Amendment. 801 F. Supp. 1526, 1537 (E.D. Va. 1992)

divorce on students.¹⁸ The school's principal censored both articles based on their content.¹⁹ While such censorship would be a clear violation "outside the school,"²⁰ the Court upheld the censorship, explaining that First Amendment rights of students in public schools "are not automatically coextensive with the rights of adults in other settings."²¹

Courts treat corporations far more generously than either young adults or animals. Since *First National Bank of Boston v. Bellotti* in 1978,²² the Supreme Court has taken the position that when a corporation is speaking, courts should ignore the identity of the speaker and focus on the nature of the expression. As Justice Powell declared for the Court, "The proper question . . . is not whether corporations 'have' First Amendment rights and, if so, whether they are coextensive with those of natural persons. Instead, the question must be whether [the law] abridges expression that the First Amendment was meant to protect."²³ When a corporation has expressed itself in a manner that resembles human speech, the Court has granted the protections of the First Amendment, implicitly conceding the corporation's equal standing with humans. And any lingering doubts about whether corporations other than "the press" have full First Amendment protection were erased in *Citizens United v. FEC*.²⁴

The treatment of corporations is in evident tension with the decisions regarding animals and young adults. Children, like corporations, occasionally express themselves with eloquence and apparent conviction. Many dog owners seem capable of understanding their pets' expression as clearly as if it were Walter Cronkite reading the evening news. If we merely consider whether a particular communication is an "expression that the First Amendment was meant to protect,"²⁵ then a young adult would certainly

¹⁸ *Hazelwood*, 484 U.S. at 263.

¹⁹ *Id.* at 263-64.

²⁰ *Id.* at 266.

²¹ *Id.* (internal quotation marks omitted) (citing *Bethel Sch. Dist. No. 403 v. Fraser*, 478 U.S. 675, 682 (1986)). More recently, the Court held that a high school principal did not violate the First Amendment by ordering a student to take down a banner at a school event with the words "Bong Hits 4 Jesus." See *Morse v. Frederick*, 551 U.S. 393, 397-98, 409 (2007) ("The First Amendment does not require schools to tolerate at school events student expression that contributes to [the danger of illegal drug use].").

²² 435 U.S. 765 (1978).

²³ *Id.* at 776.

²⁴ 130 S. Ct. 876, 905-06 (2010). The majority in *Citizens United* stated that there is "no [First Amendment] precedent supporting laws that attempt to distinguish between corporations which are deemed to be exempt as media corporations and those which are not. . . . With the advent of the Internet, . . . the line between the media and others who wish to comment on political and social issues becomes far more blurred." *Id.*

²⁵ *First National Bank*, 435 U.S. at 776.

have stronger rights than currently acknowledged by the courts, and animals might as well. For example, the censored articles in the high school newspaper in *Hazelwood*—one on teen pregnancy and the other on the effect of divorce on children—were undeniably the kind of speech that the First Amendment was meant to protect.

For that reason it is tempting simply to dismiss the corporate speech cases as wrongheaded, as Chief Justice Rehnquist did in dissent for many decades.²⁶ But if the cases can be reconciled, the main difference the courts draw between animals, minors, and corporations centers on the *quality* of the speech in question, and in particular the sense that the expression reflects intelligent choices. A corporation, an “artificial being” in Chief Justice Marshall’s words,²⁷ is an intelligent and autonomous abstraction, capable of deliberation and of expressing opinions in skilled and expressive ways. When a corporation expresses opposition to a new tax, for example, it recognizes the danger of the tax to itself, and usually contributes to a debate in an intelligent and powerful way (indeed, the main complaint is usually not that corporate speech is ineffective, but that, left unsupervised, corporations are too influential).²⁸ While there are smart animals, few argue that animals have conceptual capacities that rise to the level of human beings. Children, as partially developed humans, fall somewhere between animals and adults in this respect.

If correct, the speech quality analysis suggests that computers are highly unlikely to have their own speech rights, at least at this stage. Admittedly, computers already make choices through algorithms, and at times, the expression of those choices mimics human expression. But machines today remain like Blackie the cat,²⁹ property of their masters and owners. They remain, to the law at least, dumb beasts.

²⁶ See *Pac. Gas & Elec. Co. v. Pub. Util. Comm’n*, 475 U.S. 1, 26 (1986) (Rehnquist, J., dissenting) (“Nor do I believe that negative free speech rights, applicable to individuals and perhaps the print media, should be extended to corporations generally.”); *Cent. Hudson Gas & Elec. Corp. v. Pub. Serv. Comm’n*, 447 U.S. 557, 584 (1980) (Rehnquist, J., dissenting) (“I disagree with the Court’s conclusion that the speech of a state-created monopoly, which is the subject of a comprehensive regulatory scheme, is entitled to protection under the First Amendment.”); *First National Bank*, 435 U.S. at 825-26 (Rehnquist, J., dissenting) (arguing that corporations do not have a First Amendment right to political expression because political expression is not “necessary to carry out the functions of a corporation organized for commercial purposes”); *Va. State Bd. of Pharmacy v. Va. Citizens Consumer Council, Inc.*, 425 U.S. 748, 781 (1976) (Rehnquist, J., dissenting) (“[The majority opinion] extends the protection of [the First] Amendment to purely commercial endeavors which its most vigorous champions on this Court had thought to be beyond its pale.”).

²⁷ *Trs. of Dartmouth Coll. v. Woodward*, 17 U.S. (4 Wheat.) 518, 636 (1819).

²⁸ See, e.g., *United States v. UAW*, 352 U.S. 567, 570-84 (1957) (enumerating the dangers of corporate spending and corporate speech to the electoral system).

²⁹ See *supra* notes 12-15 and accompanying text.

1. The Rights of Creators and Users

If the Supreme Court will not entertain a computer's right to free speech, it is more likely to decide that algorithmic output is the speech of a computer program's *creator*. The program can be understood as a megaphone for the speaker, or his "speech product." Like a book, canvas, or pamphlet, the program is the medium the author uses to communicate his ideas to the world.

However, the fact that a program can serve as a vessel for an author's ideas does not always render the creator a speaker. Sometimes, the technology is merely a tool for facilitating the speech of others. The Royal Typewriter Company, despite being the creator of a speech-facilitating technology, does not hold the rights to speech created with its typewriters, for the company's relationship to the manuscripts written with its typewriters is too remote and too mechanical. Ernest Hemingway may have written *The Sun Also Rises* with a portable Royal typewriter, but it was he, not Royal, who decided to end the story with a fistfight. Nor did Royal consciously select and publish the novel.

That a typewriter is not a speaker may seem self-evident. But understanding the line that divides publishers from typewriter manufacturers clarifies the problem of algorithmic output. Publishers are distinguished from typewriter manufacturers because the former engage in an active and intimate selection or curation of a repertoire of literary works.³⁰ Newspapers and cable operators provide perhaps the most prominent examples of this kind of process.³¹

The boundary between speech product and communication tool divides computer programs. Some programs, like contemporary video games, clearly function as vessels for their creators' ideas.³² Like books or films, they are constructed to communicate their creators' ideas to an intended audience. But the algorithmic output of other kinds of programs use

³⁰ Cf. *Turner Broad. Sys., Inc. v. FCC*, 512 U.S. 622, 636 ("Through 'original programming or by exercising editorial discretion over which stations or programs to include in its repertoire,' cable programmers and operators 'see[k] to communicate messages on a wide variety of topics and in a wide variety of formats.'" (alteration in original) (quoting *City of Los Angeles v. Preferred Commc'ns, Inc.*, 476 U.S. 488, 494 (1986))).

³¹ See, e.g., *Miami Herald Publ'g Co. v. Tornillo*, 418 U.S. 241, 258 (1974) (concluding that a regulation of the press violated the First Amendment because "[t]he choice of material to go into a newspaper, and the decisions made as to limitations on the size and content of the paper, and treatment of public issues and public officials—whether fair or unfair—constitute the exercise of editorial control and judgment").

³² See *Brown v. Entm't Merchs. Ass'n*, 131 S. Ct. 2729, 2733 (2011) (holding that the First Amendment protects video games).

information as purely functional and, like the typewriter, are too far removed from the information. The creator of this class of programs does not hold First Amendment Rights with respect to its output. The program's users may bear such rights, however, if the program facilitates their speech.

An examination of the microblogging software Twitter clarifies this point. Twitter enables users to post 140-character messages, called "tweets," on the Internet.³³ The key to Twitter is its "follow" system. A user receives the tweets of everyone he follows, while his followers, in turn, receive the tweets he writes. Twitter is an important forum for speech, even if one study found 40.1% of tweets to be "pointless babble."³⁴ Tweets are sometimes used to report news,³⁵ and often to express opinions and political allegiances.³⁶

Twitter users are protected under the First Amendment as speakers.³⁷ Companies that advertise on Twitter also have some measure of protection under the commercial speech doctrine. You might say that Twitter falls into a category of speech already recognized in *Reno v. ACLU*,³⁸ which recognizes Internet applications that resemble one-to-many publishing as protected under the First Amendment.³⁹

However, like the typewriter manufacturer, Twitter itself does not usually enjoy much First Amendment protection based on its handling of tweets (an exception might be for government action with a clear censorial motive).⁴⁰ Twitter handles much information, but the company does not identify with that information or take responsibility for the creative choices of its users. Furthermore, Twitter usually distances itself from its user-created content to avoid potential libel and defamation liability.⁴¹ Indeed, the U.S. Code

³³ See *About Twitter*, TWITTER, <https://twitter.com/about> (last visited Apr. 10, 2013).

³⁴ See PEAR ANALYTICS, TWITTER STUDY—AUGUST 2009, at 4-5 (2009), available at <http://www.pearanalytics.com/wp-content/uploads/2012/12/Twitter-Study-August-2009.pdf> (finding that, in a random sample of 2000 tweets posted during a two-week period, 40.1% were "pointless babble"—for example "I am eating a sandwich now").

³⁵ See *id.* (finding that 3.6% of sampled tweets reported actual news).

³⁶ Ashley Parker, *In Nonstop Whirlwind of Campaigns, Twitter Is a Critical Tool*, N.Y. TIMES (Jan. 28, 2012), <http://www.nytimes.com/2012/01/29/us/politics/twitter-is-a-critical-tool-in-republican-campaigns.html>.

³⁷ See *United States v. Cassidy*, 814 F. Supp. 2d 574, 583 (D. Md. 2011).

³⁸ See 521 U.S. 844, 849 (1997) (holding unconstitutional a statute that prohibited sending "indecent" and "patently offensive" internet communications to minors).

³⁹ See *id.* at 870 ("[O]ur cases provide no basis for qualifying the level of First Amendment scrutiny that should be applied to [the Internet]."); see also Timothy Wu, *Application-Centered Internet Analysis*, 85 VA. L. REV. 1163, 1170-74, (1999) (analyzing *Reno v. ACLU*).

⁴⁰ For a description of the triggering of the First Amendment by censorial motive see *infra* Section II.D.

⁴¹ See *Terms of Service*, TWITTER, <http://twitter.com/tos> (last visited Apr. 10, 2013).

explicitly states that “providers of interactive computer services,” like Twitter, are *not* to be treated as “speakers” of the information they pass on.⁴²

To be sure, Twitter and its programmers make plenty of choices, like the founding decision to limit the length of tweets to 140 characters. But these choices are intended to facilitate the expression and communications of users. While no one can doubt that the use of Twitter is protected speech, the speech at issue seems mainly to belong to the users, and not the creators of the software.

B. *Speech*

1. Communications Versus Speech

“[T]he speech with which the First Amendment is even slightly concerned is but a small subset of the speech that pervades every part of our lives” writes Fred Schauer.⁴³ Another way to phrase the same point is to distinguish between the broader category of communication and the much narrower subcategory of communication protected by the Constitution. Communication can be described, following Claude Shannon, as any conveyance of information from a sender to a receiver through some channel.⁴⁴ From this perspective, communication is ubiquitous, and unavoidable. Information is conveyed to humans constantly, whether by stoplights, dirty looks, or photons travelling through fiber optic cable. Obviously not all of this constitutes speech. But what does?

“What is essential is not that everyone shall speak,” wrote Alexander Meiklejohn, “but that everything worth saying shall be said.”⁴⁵ As this suggests, distinguishing a subset of protected speech from all communications is necessarily a normative project. Meiklejohn’s implication was that protected speech should be taken as a small subset of communications, namely those “worth saying.” Robert Bork articulated an even clearer line between speech and communication: “Constitutional protection should be accorded only to speech that is explicitly political. There is no basis for

⁴² See 47 U.S.C. § 230(c)(1) (2006).

⁴³ Frederick Schauer, *The Boundaries of the First Amendment: A Preliminary Exploration of Constitutional Salience*, 117 HARV. L. REV. 1765, 1777-84 (2004).

⁴⁴ See CLAUDE E. SHANNON & WARREN WEAVER, *THE MATHEMATICAL THEORY OF COMMUNICATION* 4-6 (1959).

⁴⁵ ALEXANDER MEIKLEJOHN, *POLITICAL FREEDOM: THE CONSTITUTIONAL POWERS OF THE PEOPLE* 26 (1960).

judicial intervention to protect any other form of expression, be it scientific, literary or that variety of expression we call obscene or pornographic.”⁴⁶

The law has long since rejected a theory as limited as Bork’s,⁴⁷ and other theories of the First Amendment yield a broader and much less certain boundary between speech and communication. If, as John Stuart Mill suggested, the primary purpose of a free speech rule is to uncover the truth, either by eliminating censorship or by promoting debate, judges should treat a far broader range of communication as “speech.”⁴⁸ As a matter of simple math, the more communication is protected, the greater the odds that the truth will be found, perhaps in an unexpected place.⁴⁹ Error might remain unchallenged merely because the truth is hidden. Similarly, theories of the First Amendment that emphasize the self-development of the speaker through self-expression logically demand coverage for all forms of communications that might help the traveler on his path.⁵⁰

Some combination of these First Amendment theories has slowly transformed the boundary between communication and speech. The Supreme Court once considered matters like “entertainment” and “advertising” completely outside of the interest of the Constitution, but now protects both.⁵¹ If never explicitly stated, it seems largely in service of some broader

⁴⁶ Robert H. Bork, *Neutral Principles and Some First Amendment Problems*, 47 IND. L.J. 1, 20 (1971). For an example of another prominent theory giving enhanced protection to core political speech and diminished protection to the periphery, see ALEXANDER MEIKLEJOHN, *FREE SPEECH: AND ITS RELATION TO SELF-GOVERNMENT* 39 (1948) (“Individuals have . . . a private right of speech which may on occasion be denied or limited So says the Fifth Amendment. But this limited guarantee of the freedom of a man’s wish to speak is radically different in intent from the unlimited guarantee of the freedom of public discussion, which is given by the First Amendment.”).

⁴⁷ See, e.g., *City of Erie v. Pap’s A.M.*, 529 U.S. 277, 289 (2000) (providing limited protection for nude erotic dancing).

⁴⁸ See JOHN STUART MILL, *ON LIBERTY* 21 (John Gray ed., Oxford Univ. Press 1991) (1859) (“[T]he peculiar evil of silencing the expression of an opinion is, that it is robbing the human race; posterity as well as the existing generation; those who dissent from the opinion, still more than those who hold it. If the opinion is right, they are deprived of the opportunity of exchanging error for truth: if wrong, they lose, what is almost as great a benefit, the clearer perception and livelier impression of truth, produced by its collision with error.”).

⁴⁹ For a description of this view of the First Amendment’s purpose, see Robert Post, *Reconciling Theory and Doctrine in First Amendment Jurisprudence*, 88 CALIF. L. REV. 2353, 2363-66 (2000).

⁵⁰ See C. EDWIN BAKER, *HUMAN LIBERTY AND FREEDOM OF SPEECH* 47-69 (1989) (arguing that “as long as speech represents the freely chosen expression of the speaker, depends for its power on the free acceptance of the listener, and is not used in the context of a violent or coercive activity,” then speech is protected).

⁵¹ See *infra* notes 78-80 and accompanying text; see also *Valentine v. Chrestensen*, 316 U.S. 52, 54 (1942) (“[T]he Constitution imposes no such restraint on government as respects purely commercial advertising.”).

conception of the Amendment's purpose that the Court has widened the law's coverage.

Yet even following a truth-seeking or self-discovery theory of First Amendment coverage, there remains a difference between protecting favored forms of communication as speech, and a fully inclusive position that would treat all communications as speech. The latter position quickly yields absurd consequences and cannot be taken seriously.

It is not hard to see why. A fully inclusive theory of the First Amendment would need to treat as speech forms of communication utterly devoid of ideas or content. Honking horns and shooting firecrackers communicate something, but what exactly? As a practical matter, the First Amendment would also soon begin to clash with other areas of the law, like contract law, employment law, and securities regulation. Yes, these laws regulate communications, and some do so quite thoroughly, but what judge would have the stomach to let every contract dispute or conspiracy charge turn on free speech questions? Finally, such an approach would constitutionalize enormous areas of the law. At some point a broad theory of speech would encounter the anticanonical influence of *Lochner v. New York*,⁵² or the prescription that the federal judiciary should not strike economic legislation based on its policy preferences.⁵³

We need go no further. The consequences of covering all communications would simply be too much to bear. The line between communications and speech exists as much as a judicial necessity as anything else. But how and where is that line drawn?

2. Exclusions and Inclusions

Descriptively, we can see that the line between speech and communication has been drawn mainly by category.⁵⁴ Two kinds of categories define

⁵² 198 U.S. 45, 64 (1905) (holding that "the freedom of master and employé to contract with each other . . . cannot be prohibited or interfered with"); see Jamal Greene, *The Anticanon*, 125 HARV. L. REV. 379, 417 (2011) (noting that *Lochner* "was once famously indefensible" and that it remains "firmly within the anticanon").

⁵³ See Thomas H. Jackson & John Calvin Jeffries, Jr., *Commercial Speech: Economic Due Process and the First Amendment*, 65 VA. L. REV. 1, 30-31 & n.108 (1979) ("It is surprising to discover, however, that these economic considerations add up to a constitutional impediment to legislative control of the marketplace."); Howard M. Wasserman, *Bartnicki as Lochner: Some Thoughts on First Amendment Lochnerism*, 33 N. KY. L. REV. 421, 429-32 (2006) (noting a criticism that "in the guise of constitutional analysis, [courts] inappropriately substitute[] their own views for the views of the legislature as to the merit, wisdom, efficacy, and worthiness of public policy").

⁵⁴ Frederick Schauer, *Categories and the First Amendment: A Play in Three Acts*, 34 VAND. L. REV. 265, 267-82 (1981) ("[C]ategorization can scarcely be called a first amendment technique, because it cannot be avoided. The only question is *how* the category will be drawn.").

the line. The first are explicit and informal exclusions, where the Supreme Court has declared a type of communications not to be speech at all, despite its communicative nature. The second are categorical inclusions, situations or media where the Supreme Court declares that speech claims will always be heard by federal courts. The result is that no single sentence can define the boundary. Rather, it is best depicted by adding up inclusions and exclusions.

The categorical approach has been the subject of much scholarly criticism⁵⁵ (some even doubt its existence⁵⁶), but it is an approach easier to criticize than improve upon. Compared to an open-ended balancing rule, the categorical approach provides a clearer sense of where the First Amendment is “on” and where it is “off.” This clarity is important, especially given the relative strictness of First Amendment doctrine.⁵⁷

A full description of exclusions and inclusions would form a short treatise; this is a summary. There are two types of exclusion, formal and informal. *Formal* exclusions refer to categories of communication that the Supreme Court does not recognize as speech because the information conveyed is valueless. This includes incitement,⁵⁸ false statements of fact,⁵⁹

⁵⁵ See, e.g., Benno C. Schmidt, Jr., *Nebraska Press Association: An Expansion of Freedom and Contraction of Theory*, 29 STAN. L. REV. 431, 463-64 (1977) (“[D]efenders of ad hoc balancing have argued that first amendment issues are too complex for categorical responses, that broad rules are brittle and will tend to generate categorical exceptions, that categorical rules are disguises behind which judges covertly engage in intuitive balancing, and that categorical guarantees inject the Supreme Court too far into disputed questions of policy that should be left to, or at least shared with, the democratic branches of government.” (citations omitted)); see also *Dennis v. United States*, 341 U.S. 494, 524-25 (1951) (Frankfurter, J., concurring) (“Absolute rules would inevitably lead to absolute exceptions, and such exceptions would eventually corrode the rules.”); Wallace Mendelson, *The First Amendment and the Judicial Process: A Reply to Mr. Frantz*, 17 VAND. L. REV. 479, 484 (1964) (“In a better world, no doubt, clear and precise legal rules would anticipate all possible contingencies.”); Pierre J. Schlag, *An Attack on Categorical Approaches to Freedom of Speech*, 30 UCLA L. REV. 671, 695 (1983) (arguing that “categorical theories of the first amendment prove unsatisfactory”).

⁵⁶ See, e.g., 1 RODNEY A. SMOLLA, SMOLLA & NIMMER ON FREEDOM OF SPEECH § 12:9 (release 26, 2012) (“Th[e] categorical approach . . . has largely been discarded by the Court.”).

⁵⁷ See *City of Ladue v. Gilleo*, 512 U.S. 43, 60 (1994) (O’Connor, J., concurring) (noting that, as to the First Amendment, “fairly precise rules are better than more discretionary and more subjective balancing tests”); *Simon & Schuster, Inc. v. Members of the N.Y. State Crime Victims Bd.*, 502 U.S. 105, 127 (1991) (Kennedy, J., concurring in the judgment) (noting that, as to the First Amendment, the use of “traditional legal categories is preferable to . . . ad hoc balancing”).

⁵⁸ See *Brandenburg v. Ohio*, 395 U.S. 444, 447 (1969) (per curiam) (noting that First Amendment protection does not extend to advocacy that is “directed to inciting or producing imminent lawless action and is likely to incite or produce such action”).

⁵⁹ See *Gertz v. Robert Welch, Inc.*, 418 U.S. 323, 347 (1974) (holding that “so long as they do not impose liability without fault,” the states may impose liability “for a publisher or broadcaster of defamatory falsehood injurious to a private individual”).

obscenity,⁶⁰ and child pornography.⁶¹ Occasionally the excluded categories change. The most famous example is commercial speech, which went from nonspeech to speech in *Virginia State Board of Pharmacy v. Virginia Citizens Consumer Council*.⁶²

Courts also recognize *informal* exclusions for certain forms of communication, often but not invariably, by describing them as “conduct.” The method for informal exclusions differs from that of formal exclusions: the courts do not declare the communication valueless, but instead decline to find that speech is happening. For example, in *Rumsfeld v. Forum for Academic and Institutional Rights, Inc.*, the Supreme Court reviewed a law (the Solomon Amendment) that withheld federal funding from law schools that, in opposition to the government’s “don’t ask, don’t tell” policy, restricted military recruiters’ access to their students.⁶³ The Court found that, in this context, the law schools were not speakers because the law “affects what law schools must *do*—afford equal access to military recruiters—not what they may or may not *say*.”⁶⁴ Rather than finding the communication devoid of value, the Court instead declared that the relevant action was not speech.

Spence v. Washington serves as a general guide to the line between speech and conduct.⁶⁵ A college student protesting the Vietnam War hung an American flag upside down and adorned it with a peace symbol using black tape.⁶⁶ The Supreme Court held that the student’s display was protected speech,⁶⁷ stating that the First Amendment applies when “[a]n intent to convey a particularized message was present, and in the surrounding circumstances the likelihood was great that the message would be understood by those who viewed it.”⁶⁸

Unfortunately, even as a line between speech and conduct, the *Spence* standard does not describe the boundary well, as many scholars have pointed out.⁶⁹ For one thing, there are plenty of expressive acts that meet all

⁶⁰ See *Miller v. California*, 413 U.S. 15, 23 (1973) (“This much has been categorically settled by the Court, that obscene material is unprotected by the First Amendment.”).

⁶¹ See *New York v. Ferber*, 458 U.S. 747, 764 (1982) (“[C]hild pornography . . . is unprotected by the First Amendment.”).

⁶² See 425 U.S. 748, 761-73 (1976) (establishing the contemporary commercial speech doctrine).

⁶³ 547 U.S. 47, 51 (2006).

⁶⁴ *Id.* at 60.

⁶⁵ 418 U.S. 405 (1974) (per curiam).

⁶⁶ *Id.* at 406.

⁶⁷ *Id.* at 415.

⁶⁸ *Id.* at 410-11.

⁶⁹ See, e.g., Robert Post, *Recuperating First Amendment Doctrine*, 47 STAN. L. REV. 1249, 1252 (1995) (“The fundamental difficulty with the *Spence* test is that it locates the essence of constitutionally protected speech exclusively in an abstract triadic relationship among a speaker’s intent, a specific message, and an audience’s potential reception of that message. . . . [Furthermore,] the

of *Spence's* criteria but still shouldn't get the protections of the First Amendment.⁷⁰ Political assassination clearly conveys a particularized message likely to be well understood by anyone hearing about it, but the First Amendment does not protect assassination. *Spence's* failure to acknowledge the significance of context renders the standard hopelessly overbroad. It cannot be described as *the* line between speech and conduct, though sometimes it may provide guidance.

Next, the *inclusions* are harder to understand but no less important. These are the media, like broadcasting, and situations or contexts, like protests, that the Supreme Court has indicated are primed for speech claims.⁷¹ We might say that they are where speech happens. An inclusion works this way: when the medium is used, the communicator is presumptively a speaker.⁷²

Typically, when the Supreme Court faces a relatively new medium of communication that it has not yet confronted, it sets forth a foundational or category-recognizing case that decides whether it is of a nature that will be subject to First Amendment scrutiny and whether it will be limited in some way. There are many such medium-announcing cases, from *Red Lion* (broadcasting)⁷³ to *Reno v. ACLU* (the Internet)⁷⁴ and *Brown v. Entertainment Merchants Ass'n* (video games).⁷⁵

constitutional recognition of communication as possibly protected speech also depends heavily on the social context within which this triadic relationship is situated.”); Jed Rubenfeld, *The First Amendment's Purpose*, 53 STAN. L. REV. 767, 773 (2001) (arguing that “*Spence* is a profoundly unsatisfactory test for deciding what nonverbal stuff counts as sufficiently ‘expressive’ to trigger First Amendment scrutiny,” because it “merely states *sufficient*, not *necessary*, criteria for determining if conduct is expressive”).

⁷⁰ See, e.g., Post, *supra* note 69, at 1252 (noting that a person spray-painting a political message on a city bus would satisfy the *Spence* test but that “no court in the country would consider [his criminal conviction] as raising a First Amendment question”).

⁷¹ See *Red Lion Broad. Co. v. FCC*, 395 U.S. 367, 386 (1969) (“Although broadcasting is clearly a medium affected by a First Amendment interest, differences in the characteristics of new media justify differences in the First Amendment standards applied to them.” (citations omitted)); *Brandenburg v. Ohio*, 395 U.S. 444, 455 (1969) (Douglas, J., concurring) (noting that only the “action side of [a] protest” may be regulated (internal quotation marks omitted)).

⁷² See Schauer, *supra* note 54, at 300 (“When a rule describes a category of facts with some specificity and when that rule mandates the results that flow from inclusion or exclusion from the specifically defined category, the judge has merely to place the case in the proper category in order to determine the correct result. Things will never be quite this simple, but it is possible to reduce or minimize the degree of discretion . . .”).

⁷³ See 395 U.S. at 386.

⁷⁴ See 521 U.S. 844, 870 (1997). Should it be dispositive, for the question of algorithmic speech, that *Reno* declared the Internet a fully protected “medium” of expression, when many computers convey the results of their expression over the Internet? I don't think it can be. In *Reno*, the Supreme Court recognized no universal disability, as it were, for speech on the Internet. See Wu, *supra* note 39, at 1170 (asserting that the rule pronounced in *Reno* is that “The Internet Gets Full First Amendment Protection”). Hence a blogger who reaches his audience using the Internet

Like the exclusion categories, the inclusion categories evolved over time. The most famous example is film: in 1915, the Supreme Court concluded, based on the premise that motion pictures are a type of meaningless, for-profit entertainment, that they simply did not trigger the First Amendment.⁷⁶ The Court explained that “the exhibition of moving pictures is a business pure and simple, originated and conducted for profit, like other spectacles, not to be regarded . . . as part of the press of the country or as organs of public opinion.”⁷⁷ It later reversed itself in *Joseph Burstyn, Inc. v. Wilson*, concluding that “motion pictures are a significant medium for the communication of ideas.”⁷⁸

Burstyn provides some insight on how judges determine whether a given technology or context is primed for First Amendment claims. The Court stated,

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. The importance of motion pictures as an organ of public opinion is not lessened by the fact that they are designed to entertain as well as to inform.⁷⁹

The Court suggests that motion pictures gain protection because, even if they were mere sideshow novelties in the early 1900s,⁸⁰ over time, the medium of film has transformed into a vehicle to express, appreciate, or understand ideas, doctrines, attitudes, and the like.

gets the same protections as an essayist using paper. But the equivalence of paper and the Internet Protocol doesn't tell us anything about particular ways that the Protocol can be used, just as the protection granted to a newspaper tells us nothing about a man who writes a contract using paper. See *id.*, at 1170-74 (arguing that the rule pronounced in *Reno* “groups into one constitutional box a huge range of highly variable Internet usage”).

⁷⁵ See 131 S. Ct. 2729, 2733 (2011).

⁷⁶ *Mut. Film Corp. v. Indus. Comm'n*, 236 U.S. 230, 244-45 (1915).

⁷⁷ *Id.* at 244.

⁷⁸ 343 U.S. 495, 501 (1952).

⁷⁹ *Id.* (footnote omitted).

⁸⁰ The earliest commercial films were silent, were usually under ten minutes, and rarely had a plot or characters. See TIM WU, *THE MASTER SWITCH: THE RISE AND FALL OF INFORMATION EMPIRES* 62 (2011). However, by 1915, the year of the *Mutual Film* decision, the film industry had already transformed. That was, for example, the year of the release of *The Birth of a Nation* (D.W. Griffith 1915), which advocated white supremacy. The Supreme Court's ruling in *Mutual Film* was, therefore, indefensible even in its own time.

3. Algorithmic Output: Speech or Communication?

We can predict two things based on the inclusion/exclusion framework. First, courts will find that at least some types of computer programs are the subject of a categorical inclusion. In fact, the Supreme Court has already started down this path with its treatment of video games.⁸¹ Second, the courts will rely on informal exclusions to deny coverage in other software cases. This point is developed more fully in Part III, which describes the de facto exclusions that are based on functionality.

In the 1980s, lawyers first claimed that video games were protected by the First Amendment.⁸² The games of that era, like *Donkey Kong* and *Pac-Man*, were certainly games of high skill considered classics by aficionados,⁸³ but they are harder to describe as bearers of ideas. The first court to consider a video game as speech compared it to “a pinball game, a game of chess, or a game of baseball,” declaring that the games lacked any “informational element,”⁸⁴ and denied the effort of an arcade game owner to invoke the First Amendment.⁸⁵

By 2011 matters had changed. Some video games now use the full range of literary devices found in film and novels, as well as other devices that more traditional media cannot mimic. For example, *Ico* is a Japanese video game with an affecting storyline. A child is born with horns, exiled from his village, and placed within a stone prison from which he must escape.⁸⁶ The game was widely praised for its plot and cited by film director Guillermo del Toro as a “masterpiece” and an influence on his work.⁸⁷ *Halo*, a best-

⁸¹ See *supra* note 75 and accompanying text.

⁸² See, e.g., *Malden Amusement Co. v. City of Malden*, 582 F. Supp. 297, 299 (D. Mass. 1983) (describing the claim of a plaintiff that a city regulation limiting the number of coin-operated video games permitted in a business establishment violated the First Amendment); *Am.’s Best Family Showplace Corp. v. City of New York*, 536 F. Supp. 170, 171 (E.D.N.Y. 1982) (describing the claims of a plaintiff seeking a declaratory judgment that a city regulation of coin-operated video games violated the First Amendment); *Kaye v. Planning & Zoning Comm’n*, 472 A.2d 809, 810 (Conn. Super. Ct. 1983) (“The plaintiff has urged that video games are a form of free speech and that the restrictions imposed upon him by the defendant commission abridge that right.”); *Caswell v. Licensing Comm’n*, 444 N.E.2d 922, 923-24 (Mass. 1983) (describing the First Amendment claims of a plaintiff seeking declaratory relief against a local commission that denied his application for licenses for seventy-five coin-operated video games).

⁸³ See Scott Oldham, *Videogame Nirvana*, POPULAR MECHANICS, Dec. 1997, at 146 (describing “classics such as PacMan, Ms. PacMan, Donkey Kong and Asteroids”).

⁸⁴ *Best Family*, 536 F. Supp. at 174.

⁸⁵ See *id.* (“[V]ideo games do not implicate First Amendment problems . . .”).

⁸⁶ *Ico Review*, GAME SPOT (Sept. 26, 2011, 5:34 PM), <http://www.gamespot.com/ico/reviews/ico-review-2815038>.

⁸⁷ See, e.g., *Hellboy Director Talks Gaming*, EDGE (Aug. 26, 2008, 8:25 AM), <http://www.edge-online.com/features/hellboy-director-talks-gaming> (quoting director Guillermo del Toro as saying

selling video game franchise from Microsoft, has a complex plot not unlike a science fiction movie. A game like *Grand Theft Auto* communicates a kind of humorous glorification of the low-level criminal that is not unlike the films of Quentin Tarantino.

In *Brown*, therefore, the Supreme Court did for video games what *Burstyn* did for film⁸⁸: effected a re-categorization, based on the fact that the medium had evolved into something different. Justice Scalia wrote for the majority:

Like the protected books, plays, and movies that preceded them, video games communicate ideas—and even social messages—through many familiar literary devices (such as characters, dialogue, plot, and music) and through features distinctive to the medium (such as the player’s interaction with the virtual world). That suffices to confer First Amendment protection.⁸⁹

While video games are a type of computer program, *Brown* does not declare that all computer programs fall under the coverage of the First Amendment. Yet the evolution of games and film before them are an important reminder that the technologies here described, even if not inclusions today, may someday be so declared.

C. Motive

Motive is the trump card of First Amendment jurisprudence. Even if the communication in question would not otherwise be considered speech, a demonstrated censorial motive on the part of the government can trigger First Amendment analysis anyhow. In other words, a demonstrated purpose in restricting the content of speech on the part of the government can, just by itself create First Amendment coverage.

that gaming has had “[a] lot” of influence on his movies and that “[t]here are only two games I consider masterpieces: *Ico* and *Shadow of the Colossus*”); Matt Peckham, *PlayStation 3 Exclusive ICO 2 Trailer Leaked pre-E3?*, PCWORLD (May 20, 2009, 7:01 AM), http://www.pcworld.com/article/165226/ico_2_leaked.html (noting that “everybody loves ICO” and describing the game as an “action-puzzler” and “a pensive boy-meets-girl fairy tale” that “had gamers raising that silly question ‘Games as art?’” and “impell[ed] message board philosophy dilettantes to grapple breathlessly with the mechanics of Free Will 101”); Jamin Smith, *Ico & Shadow of the Colossus Review*, VIDEOGAMER (Aug. 9, 2011, 5:00 PM), http://www.videogamer.com/ps3/ico_shadow_of_the_colossus/review-2.html (noting that “you’ll be rewarded with an experience that will stay with you for a very long time” and ranking *Ico* and another game by its creator as “two of the most important games ever made”).

⁸⁸ See *supra* notes 78-79 and accompanying text.

⁸⁹ *Brown v. Entm’t Merchs. Ass’n*, 131 S. Ct. 2729, 2733 (2011).

“First Amendment law,” wrote Elena Kagan in 1996, “has as its primary, though unstated, object the discovery of improper governmental motives.”⁹⁰ Kagan’s descriptive thesis is that the familiar distinctions between content-specific and content-neutral scrutiny in First Amendment analysis tend to allow the judiciary to find and condemn impermissible censorial motivations.⁹¹ The idea expands on Laurence Tribe’s well-known description of two “tracks” in First Amendment jurisprudence, where the first imposes higher scrutiny on regulations where the government’s concern is the communicative impact of the speech in question.⁹²

If Kagan and Tribe are descriptively correct, it must follow that the presence of a censorial motivation is more likely to trigger First Amendment coverage in the first place. Stated differently, Kagan and Tribe focused on the importance of the analytical step where the courts decide whether the government act targets the effects of speech or the evil unrelated to the viewpoint of the speech in question—a time, place, or manner regulation. But it stands to reason that similar concerns operate at “step zero” as well—deciding whether the First Amendment is triggered at all.

This initial analysis might best be demonstrated by a comparison of arson, flag-burning, and hate speech cases. Consider a typical prosecution for arson in a house-burning. Burning down someone’s house can be communicative—it suggests, at a minimum, disapproval of the resident or perhaps his tastes. Nonetheless, a defense that states the arsonist is protected by the First Amendment because he was expressing his hatred for his rival would usually be thrown out without much consideration.⁹³

In contrast, in a prosecution for burning a flag at a protest⁹⁴ or burning a cross on a Black family’s lawn,⁹⁵ the First Amendment analysis will be

⁹⁰ Elena Kagan, *Private Speech, Public Purpose: The Role of Governmental Motive in First Amendment Doctrine*, 63 U. CHI. L. REV. 413, 414 (1996); see also Rubinfeld, *supra* note 69, at 776 (noting that in some cases the “only real First Amendment question . . . is whether the state’s purpose was to punish someone *for speaking*”).

⁹¹ See Kagan, *supra* note 90, at 451 (stating that the distinction between content-based and content-neutral actions “separates out, roughly but readily, actions with varying probabilities of arising from illicit motives”).

⁹² See LAURENCE H. TRIBE, *AMERICAN CONSTITUTIONAL LAW* 791-92 (2d ed. 1988) (“If a government regulation is aimed at the communicative impact of an act . . . [the] regulation is unconstitutional unless government shows that the message being suppressed poses a ‘clear and present danger,’ constitutes a defamatory falsehood, or otherwise falls on the unprotected side of one of the lines the Court has drawn to distinguish those expressive acts privileged by the first amendment . . .”).

⁹³ See, e.g., *United States v. Rainey*, 362 F.3d 733, 734 (11th Cir. 2004) (ignoring an arson defendant’s First Amendment protest claims).

⁹⁴ See *Texas v. Johnson*, 491 U.S. 397, 399 (1989) (holding a criminal conviction for burning a flag during a protest unconstitutional under the First Amendment).

triggered as a matter of course. There may be disagreement about whether those acts should be protected by the First Amendment, but the initial question of coverage is almost impossible to contest. The main difference between these examples would appear to be government motive. Unlike in the more ordinary household arson, there is some suspicion in the latter cases that the Government is prosecuting those who lit the fire because of their views, not because of the act in question, particularly if the statute targets acts of hatred. This censorial motive leads to an automatic triggering of First Amendment coverage.

D. *Abridgement*

An extraordinarily opaque dimension of the First Amendment's domain is provided by the requirement that the law in question must actually burden speech. While rarely linked to the text of the First Amendment, we might consider this as a requirement of actually "abridging"⁹⁶ the freedom of speech and press. This area of doctrine is particularly confusing, even by First Amendment standards.

Consider what happens in cases where the copyright laws are challenged as violating the First Amendment. Imagine a case where a man seeks to illustrate the absurdity of a prominent trial by borrowing the visual style and rhyme of *The Cat in the Hat* by Dr. Seuss.⁹⁷ The owner of a copyright can ask a court to impose a prior restraint on publication of that book,⁹⁸ and even potentially have copies of the book destroyed.⁹⁹ In some cases, the Supreme Court has refused to subject copyright law to a full First Amendment analysis, arguing that copyright is an "engine of free expression"¹⁰⁰ that avoids First Amendment scrutiny unless some aspect goes beyond the

⁹⁵ *R.A.V. v. City of St. Paul*, 505 U.S. 377, 379-81 (1992) (overturning a criminal conviction for burning a cross on a Black family's lawn because the relevant hate crime statute was unconstitutional under the First Amendment).

⁹⁶ U.S. CONST. amend. I.

⁹⁷ See *Dr. Seuss Enters. v. Penguin Books USA, Inc.*, 109 F.3d 1394, 1396 (9th Cir. 1997) (reviewing the claim of a publishing company for preliminary injunction against the publication of "a rhyming summary of highlights from the O.J. Simpson double murder trial" that allegedly violated a copyright of *The Cat in the Hat*).

⁹⁸ See 17 U.S.C. § 502(a) (2006).

⁹⁹ *Id.* § 503(a)-(b).

¹⁰⁰ See *Harper & Row, Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 558 (1985) ("In our haste to disseminate news, it should not be forgotten that the Framers intended copyright itself to be the engine of free expression. By establishing a marketable right to the use of one's expression, copyright supplies the economic incentive to create and disseminate ideas.").

“traditional contours” of copyright.¹⁰¹ As Rebecca Tushnet has pointed out, that pattern is true of various other laws that seem mysteriously outside of First Amendment scrutiny, or subject to less scrutiny.¹⁰²

While the rationales tend to vary, the best explanation is that courts refuse to undertake a First Amendment analysis because they do not believe that the law “abridges” or burdens speech. Rather, whether a law promotes speech (copyright), or is targeted at some evil clearly removed from speech-related objectives, courts decline to bring the First Amendment into play. Unfortunately, it is often hard, and sometimes impossible, to separate this analysis from the speech/communications analysis discussed above,¹⁰³ because sometimes a law evades First Amendment scrutiny by targeting communications that the court has declared nonspeech.¹⁰⁴

III. THE FIRST AMENDMENT’S DE FACTO FUNCTIONALITY DOCTRINE

I have described four doctrinal lines that define the boundaries of the First Amendment. The question now is this: how should or will courts decide whether algorithmic output is protected by the First Amendment?

Here is my thesis: Functionality will usually be the line that divides speech and communications in this area, in the absence of suspicious censorial motives.¹⁰⁵ Doctrinally, this takes courts into an area of the First Amendment that is among the least well understood. But a careful look at the cases suggests that courts already maintain an informal exclusion based on functional considerations.

¹⁰¹ See *Eldred v. Ashcroft*, 537 U.S. 186, 221 (2003) (“[The lower court] spoke too broadly when it declared copyrights ‘categorically immune from challenges under the First Amendment.’ But when, as in this case, Congress has not altered the traditional contours of copyright protection, further First Amendment scrutiny is unnecessary.” (citation omitted) (quoting *Eldred v. Reno*, 239 F.3d 372, 375 (D.C. Cir. 2001))).

¹⁰² See Rebecca Tushnet, *Copyright as a Model for Free Speech Law: What Copyright Has in Common with Anti-Pornography Laws, Campaign Finance Reform, and Telecommunications Regulation*, 42 B.C. L. REV. 1, 36-39 (2000) (noting that the argument that copyright promotes First Amendment values has been made in the context of a number of other areas of the law, including “pornography, sexual harassment, hate speech, campaign finance, and new media”).

¹⁰³ See *supra* Section II.C.

¹⁰⁴ See, e.g., *Pittsburgh Press Co. v. Pittsburgh Comm’n on Human Relations*, 413 U.S. 376, 385 (1973) (finding that employment advertisements expressing a sex preference for employees were commercial speech, and thus were unprotected by the First Amendment).

¹⁰⁵ See *supra* Section II.D.

A. *Functionality Generally*

Functionality as a legal concept is employed mainly in copyright, patent, and trademark law, each of which has distinctive doctrinal versions.¹⁰⁶ Sometimes described as the “nonfunctionality requirement,” this doctrine denies the benefits of the law to some otherwise qualifying expressive work, based on the argument that the work is primarily designed or intended to perform some task unrelated to the goals of the law in question. As such, it acts to prevent a party from using the law to achieve objectives completely unrelated to the goals of that law. It is a limit on opportunism.

This might be easier to understand using an example. If viewed as a work of sculpture, a car engine might be indistinguishable from any other detailed metal sculpture and thus qualify for the legal protection that copyright, trademarks, or design patents give to expressive work. But the functionality doctrine denies protection because the car engine is designed for another purpose: powering a vehicle.

Why not protect a car engine?¹⁰⁷ The reason is best understood in terms of preventing lawyerly opportunism. In the intellectual property context, judges describe the doctrine as preventing interference with one of two systems: the competitive process, or some other legal regime, such as patent law. A representative dictum invoking both is Justice Breyer’s description of the doctrine in the trademark context: “The functionality doctrine prevents trademark law, which seeks to promote competition by protecting a firm’s reputation, from instead inhibiting legitimate competition by allowing a producer to control a useful product feature.”¹⁰⁸ Pointing out that a patent conveys limited monopolies over function, he added, “If a product’s functional features could be used as trademarks . . . a monopoly over such

¹⁰⁶ See, e.g., *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 148 (1989) (“To qualify for [design patent] protection, a design must present an aesthetically pleasing appearance that is not dictated by function alone”); *Inwood Labs., Inc. v. Ives Labs., Inc.*, 456 U.S. 844, 850 n.10 (1982) (determining a product feature to be functional in trademark law “if it is essential to the use or purpose of the article or if it affects the cost or quality of the article”); *Brandir Int’l, Inc. v. Cascade Pac. Lumber Co.*, 834 F.2d 1142, 1147 (2d Cir. 1987) (determining that the functionality requirement in copyright law precludes protection when the “ultimate design [is] as much the result of utilitarian pressures as aesthetic choices”).

¹⁰⁷ See, e.g., Orit Fischman Afori, *The Role of the Non-Functionality Requirement in Design Law*, 20 *FORDHAM INTELL. PROP. MEDIA & ENT. L.J.* 847, 869 (2010) (arguing that the functionality doctrine is flawed because it is difficult to draw a distinction between functional and nonfunctional products at the registration phase, and proposing that this determination be postponed until a case of infringement is brought); Mark P. McKenna, *(Dys)Functionality*, 48 *HOUS. L. REV.* 823, 824 (2011) (using the functionality doctrine to show the lack of consensus among the courts as to the role of trademark law in promoting the value of competition).

¹⁰⁸ *Qualitex Co. v. Jacobson Prods. Co.*, 514 U.S. 159, 164 (1995).

features could be obtained without regard to whether they qualify as patents and could be extended forever.”¹⁰⁹

The functionality doctrine is a typical common law invention in the sense that it responds, on a case-by-case basis, to overreaching parties and untenable consequences. Nonetheless, it is helpful to gain some idea of how judges distinguish between functional and expressive elements if we are to understand functionality in the First Amendment context. Judges do not define what is “functional” in any theoretically deep way: something is functional, according to the Supreme Court, “if it is essential to the use or purpose of the article or if it affects the cost or quality of the article.”¹¹⁰ For the Europeans, who have an equivalent doctrine in their design law, functionality refers to “features [or the] appearance of a product which are solely dictated by its technical function.”¹¹¹ Circularity is an obvious feature of both definitions.

It is in the distinction between function and expression that we get a better idea of what functionality really means. Sometimes courts simply decide what is functional based on their own observational powers. For example, in *Publications International, Ltd. v. Landoll, Inc.*, a publisher sought to trademark the design of its books, which featured, among other things, gilded page edges.¹¹² Judge Posner pronounced the golden coloring to be aesthetically functional, because “[g]old connotes opulence” and “children love gold.”¹¹³ That was the end of the matter.

Others have conducted more searching (yet not necessarily better) efforts to distinguish the functional from the expressive. In an influential article, Robert Denicola suggested that the boundary between functional and expressive elements should be determined by an examination of the creative process itself, and ultimately, the creator’s purpose.¹¹⁴ Denicola wrote that protection “ultimately should depend on the extent to which the work reflects artistic expression uninhibited by functional considerations.”¹¹⁵ If the work is responsive to, or influenced by, utilitarian factors, then, logically, it cannot be purely expressive. We might understand this as a kind of “blocking out”—the engineer who is working on a car engine is heavily

¹⁰⁹ *Id.* at 164-65.

¹¹⁰ *Inwood Labs.*, 456 U.S. at 850, n.10.

¹¹¹ See Council Directive 98/71, art. 7(1), 1998 O.J. (L 289) 28, 31 (EU).

¹¹² 164 F.3d 337, 338, 342-43 (7th Cir. 1998).

¹¹³ *Id.* at 343.

¹¹⁴ See Robert C. Denicola, *Applied Art and Industrial Design: A Suggested Approach to Copyright in Useful Articles*, 67 MINN. L. REV. 707, 743 (1983) (arguing that it is the “process more than the result that gives industrial design its distinctive character”).

¹¹⁵ *Id.* at 741.

constrained by the need to make the best engine possible and has little or no room left in his process for art. Seen another way, this asks for an inquiry into the motive of the designer. Was the motive, the reason the article was designed the way it was, the result of purely expressive or artistic considerations? Or was the goal something else? The Second and Seventh Circuits have adopted this search for motive.¹¹⁶

There is no use going too far in this examination of functionality in the intellectual property context, for the exercise bears diminishing returns. However, what we can understand is that a nearly identical problem confronts judges facing a First Amendment plaintiff pressing claims that cover highly functional elements, namely, rich opportunities for lawyerly opportunism. As in the intellectual property area, protecting functionality may yield consequences unrelated to the goals of the Constitution.

B. *The First Amendment's Functionality Doctrine*

Courts considering these matters should be aware that the First Amendment already contains a de facto functionality doctrine (or, stated differently, it has a nonfunctionality requirement), though it is not as explicit as in intellectual property law. Long before the development of advanced software, courts declined to extend First Amendment protection, based on the potential for gamesmanship or on concerns about the disruption of some other system or legal regime.

There are two different ways in which the functionality doctrine operates. First is the carrier/conduits category. Here, the actor's *relationship* to the information in question is too mechanical to make it a speaker.¹¹⁷ The claimant does handle or transform information, but its relationship is characterized by a lack of identification with the information it handles, along with a lack of specific knowledge and usually a lack of legal responsibility. Sometimes courts call the actions "conduct" instead of speech. In any event, this is where we find telephone companies, courier services, law schools hosting job interviews, and manufacturers of typewriters and television sets. All of these firms handle or transform speech, but none is a speaker (not even a loudspeaker). As I will suggest, many software products will fall into this category as well.

¹¹⁶ See *Pivot Point Int'l v. Charlene Prods., Inc.*, 372 F.3d 913, 931 (7th Cir. 2004) ("If the elements do reflect the independent, artistic judgment of the designer, conceptual separability exists."); *Brandir Int'l, Inc. v. Cascade Pac. Lumber Co.*, 834 F.2d 1142, 1145 (2d Cir. 1987) (explicitly adopting the standard proposed by Denicola to distinguish the functional from the expressive).

¹¹⁷ See *supra* subsection II.A.1.

In a second category are communicative tools. In this category, the information conveyed, in context, is functional: it performs some task other than the communication of ideas. Navigational charts are the definitive example, but the rationale is closely related to the academically well-studied topic of “speech acts” or “situation-altering utterances.”

1. Carrier/Conduits

The first version of the functionality doctrine excludes from First Amendment protection actors whose involvement with information is too distant or mechanical to be speech. This covers those that handle or transform information in a manner usually lacking specific choices as to content, lack specific knowledge as to what they are handling, or do not identify as the publisher of that information.

Several prominent Supreme Court cases help clarify this. In *Turner Broadcasting System*, the Court explained that a cable operator obtains First Amendment protection only because it “exercis[es] editorial discretion over which stations or programs to include in its repertoire.”¹¹⁸ The knowing selection of that repertoire distinguishes cable operators from carriers that merely move information without identifying or selecting the content they carry. The same inference applies to a newspaper: a newspaper knowingly selects and identifies with the content it presents.¹¹⁹ In contrast, a telephone company, which merely carries information from place to place, has never been able to claim First Amendment rights.¹²⁰

The category is also well illustrated by the previously discussed *Rumsfeld v. Forum for Academic & Institutional Rights, Inc.*¹²¹ Even though law schools

¹¹⁸ *Turner Broad. Sys., Inc. v. FCC*, 512 U.S. 622, 636 (1994) (quoting *City of Los Angeles v. Preferred Commc'ns, Inc.*, 476 U.S. 488, 494 (1986)).

¹¹⁹ *See Miami Herald Publ'g Co. v. Tornillo*, 418 U.S. 241, 261 (1974) (White, J., concurring) (invoking an “elementary First Amendment proposition that government may not force a newspaper to print copy which, in its journalistic discretion, it chooses to leave on the newsroom floor” and noting that the Supreme Court has never held that “the First Amendment permitted public officials to dictate to the press the contents of its news columns or the slant of its editorials”); *see also Pittsburgh Press Co. v. Pittsburg Comm'n on Human Relations*, 413 U.S. 376, 391 (1973) (reaffirming “unequivocally the protection afforded to editorial judgment and to the free expression of views”).

¹²⁰ *See, e.g., Susan Dente Ross, First Amendment Trump?: The Uncertain Constitutionalization of Structural Regulation Separating Telephone and Video*, 50 *FED. COMM. L.J.* 281, 297-98 (1998) (noting that historically, “[t]elephone services fell outside the ambit of First Amendment jurisprudence because the telephone was treated as an essential utility, not a speaker”); Note, *The Message in the Medium: The First Amendment on the Information Superhighway*, 107 *HARV. L. REV.* 1062, 1092 (1994) (“[C]ommon carrier status insulates telephone companies from the expectation that they endorse all speech in phone conversations.”).

¹²¹ 547 U.S. 47 (2006).

refused to allow military recruiters on campus in opposition to “don’t ask, don’t tell,” the schools weren’t considered speakers.¹²² As the Court explained, “accommodating the military’s message does not affect the law schools’ speech, because the schools are not speaking when they host interviews and recruiting receptions.”¹²³ In particular, the Court stressed the unlikelihood that the law schools would be identified with the military recruiters’ speech merely on account of their hosting them.¹²⁴

The cable, newspaper, and interview-hosting cases all suggest the same conclusion. They describe a difference between a publisher, who actively curates the sum total of the information presented and is identified with it, and those entities that have a more mechanical relationship to the information they carry, process, or otherwise handle. A court might say the latter are engaged in “conduct;” we can also say that, by operation of the de facto functionality doctrine, these companies are not protected by the First Amendment.

2. Communicative Tools

Sometimes courts decline to protect communications as speech based on an assessment that the information in question acts as a tool. The paradigmatic examples are maps and navigational charts.¹²⁵ As the Ninth Circuit explained:

Aeronautical charts are highly technical tools. They are graphic depictions of technical, mechanical data. The best analogy to an aeronautical chart is a compass. Both may be used to guide an individual who is engaged in an activity requiring certain knowledge of natural features. Computer software that fails to yield the result for which it was designed may be another.¹²⁶

¹²² *Id.* at 60.

¹²³ *Id.* at 64.

¹²⁴ *Id.* at 65.

¹²⁵ See *Brocklesby v. United States*, 767 F.2d 1288, 1295 n.9 (9th Cir. 1985) (refusing to address whether “the First Amendment renders the theory of strict liability for a defective product inapplicable to . . . charts,” because the argument was not raised in the court below); *Salomey v. Jeppesen & Co.*, 707 F.2d 671, 677 (2d Cir. 1983) (affirming the lower court finding that a navigational chart was defective, but engaging in no First Amendment analysis); *Aetna Cas. & Sur. Co. v. Jeppesen & Co.*, 642 F.2d 339, 342-43 (9th Cir. 1981) (applying Nevada law, and affirming the lower court’s judgment that a navigational chart was defective for the purposes of products liability without analyzing the claim under the First Amendment); *Fluor Corp. v. Jeppesen & Co.*, 170 Cal. App. 3d 468, 475 (Ct. App. 1985) (applying California law, and applying strict liability for a defective navigational chart without analyzing the claim under the First Amendment).

¹²⁶ *Winter v. G.P. Putnam’s Sons*, 938 F.2d 1033, 1035-36 (9th Cir. 1991).

Courts decline to protect tools for reasons that overlap with its treatment of what philosophers of language call “speech acts.” As Catharine MacKinnon explained, “social life is full of words that are legally treated as the acts they constitute without so much as a whimper from the First Amendment.”¹²⁷ Some communications by their very issuance or utterance perform some action, such as “[s]aying ‘kill’ to a trained attack dog.”¹²⁸ That is to say, some communications don’t simply express a view, or even cause some effect, but accomplish something by their very utterance. Expressing a verbal acceptance of an offer not only tells people something, but also creates a legally binding agreement.

Hence, the same rationale that claims tools are not speech says that legal documents like contracts, wills, commercial paper, and the like are not subject to First Amendment protection as against the law of contracts, trusts and estates, or financial regulation. To be fair, courts haven’t been very explicit in their reasoning: the only Supreme Court case to consider the matter of contract enforcement, *Cohen v. Cowles Media Co.*,¹²⁹ did so in dictum and is hard to interpret. The Court excluded a contract claim from First Amendment scrutiny on the assumption that the application of laws of general applicability does not implicate the First Amendment¹³⁰ (which isn’t necessarily true¹³¹). Similarly, while scholars have had their say,¹³² courts have rarely explained why exactly certain criminalized communications, such as criminal solicitations, perjury, and conspiracies are not subject to First Amendment analysis.¹³³

* * *

¹²⁷ CATHARINE A. MACKINNON, ONLY WORDS 12 (1993).

¹²⁸ *Id.* (emphasis omitted).

¹²⁹ 501 U.S. 663 (1991).

¹³⁰ *See id.* at 669 (noting that “generally applicable laws do not offend the First Amendment” simply because they are enforced against the press).

¹³¹ *See id.* at 677 (Souter, J., dissenting) (disputing whether “the fact of general applicability [is] dispositive”).

¹³² *See, e.g.*, Kent Greenawalt, *Speech and Crime*, 5 AM. B. FOUND. RES. J. 645, 739-78 (1980) (developing standards for the application of the First Amendment to a variety of different words that encourage others to commit crime); Eugene Volokh, *Crime-Facilitating Speech*, 57 STAN. L. REV. 1095, 1217 (2005) (arguing for “a First Amendment exception for speech that substantially facilitates crime” when “the speech is said to a few people who the speaker knows are likely to use it to commit a crime”; when “the speech . . . has virtually no noncriminal uses”; or when “the speech facilitates extraordinarily serious harms” (emphasis omitted)).

¹³³ *See* Volokh, *supra* note 132, at 1103 (“[T]he Supreme Court has never squarely confronted [speech that makes it easier for others to commit a crime] and lower courts . . . have only recently begun to seriously face it.”).

Between these two strands of doctrine, I think we can safely say that, like other areas of the law, the First Amendment usually denies protection to carrier/conduits and mere communicative tools. The reasons, while rarely given, seem to be similar to those found in intellectual property cases: judges fear the consequences of allowing a law intended to protect expression to venture into areas where other motivations are paramount. They may also fear opportunism on the part of lawyers—an effort to use the Constitution for goals quite unrelated to speech. Beyond this, and the caveat that a censorial motive would probably trump the functionality doctrine, it is hard to say more.

IV. EASY AND HARD CASES: SEARCH ENGINES AND CONCIERGES

We can now summarize what we have learned. The means by which courts determine the coverage of the First Amendment is complex and comprises at least four main dimensions. Operating within this framework are the two versions of a First Amendment functionality doctrine described above. In this final Part, I suggest how these doctrines might play out in easier and harder cases concerning the output of computer programs.

A. *Easy Cases*

As indicated by *Brown*, the courts will recognize as speech a wide range of communications that are made using a computer program.¹³⁴ While not strictly specified by *Brown*, I predict that this will include blog posts, tweets, online photo streams, and probably slightly shorter or more symbolic expressions such as Yelp or Amazon reviews written by humans. These forms of expression are sometimes heavily shaped by computer programs, but in the same way that the choice of charcoal or paintbrush shapes an artist's output. By this analysis, *Bland v. Roberts*, a 2012 district court decision holding Facebook's "like" feature not to be "speech" is clearly erroneous and should be reversed.¹³⁵

At the other extreme, some of the output of computer programs will fall into the heart of the functionality exclusion. Car alarms and antilock braking systems are clear examples of communicative tools. Alarms act on the user as a warning. This doesn't mean it is impossible that the sound of a car alarm could form a part of protected speech (say, as part of a song or art

¹³⁴ See *supra* notes 88-89 and accompanying text.

¹³⁵ See 857 F. Supp. 2d 599, 603 (E.D. Va. 2012) ("[M]erely 'liking' a Facebook page is insufficient speech to merit constitutional protection.").

installation). But more generally, an alarm functions to warn that a car may be in the process of being stolen.

Software navigation and map programs offer harder cases. Based on my description of the functionality doctrine, I believe that these technologies are still unprotected tools, because their communications perform a function unrelated to the communication of ideas, namely, telling someone how to get from *A* to *B*. Consider, for example, *Rosenberg v. Harwood*.¹³⁶ A woman claimed that, relying on Google Maps' walking directions, she stepped onto a freeway and was hit by a car.¹³⁷ Google answered the complaint with, among other defenses, an argument that its directions are protected speech.¹³⁸ While the court wisely avoided the constitutional question,¹³⁹ its analysis suggests that the First Amendment argument should be rejected under the functionality doctrine. The map was meant to assist the user with a task, not to express to him any ideas or to influence his worldview. Directions are much like commands, more speech acts than anything else. For that reason the First Amendment ordinarily ought not to be triggered.

B. *Hard Cases*

1. Search Engines

Search engines are programs that use an algorithm to guess, within some enormous body of text, items that represent the best match for the user's search. Search engines were once mainly used for searching specialized databases, but they have become ubiquitous over the last decade. The well-known Westlaw program uses various sophisticated algorithms to retrieve documents based on keywords or search codes that the user composes.¹⁴⁰ More important to nonlawyers is the Google search engine, which returns the links to webpages it deems most likely relevant to a user's keywords (or, in search engine parlance, most likely to provide answers). A sophisticated search engine like Google's also creates an index with a consistent and constant ranking of all of the potential results for a given search.¹⁴¹

¹³⁶ No. 100916536, 2011 WL 3153314 (D. Utah May 27, 2011).

¹³⁷ *Id.* at 1.

¹³⁸ *Id.* at 2.

¹³⁹ *See id.*

¹⁴⁰ WESTLAW CLASSIC (2013), <http://web2.westlaw.com>.

¹⁴¹ *See, e.g.*, Greg Lastowka, *Google's Law*, 73 BROOK. L. REV. 1327, 1342 (2008) (demonstrating that, while the average user rarely travels beyond the first page of relevant results for a Google search for "cars," the search engine has "indexed over 300 million websites related to 'cars'").

Given the functional nature of search engines (as the word “engine” suggests), it might seem easy to conclude that search results do not trigger the First Amendment. In a 2008 paper, Oren Bracha and Frank Pasquale reached that conclusion with relative ease.¹⁴² However, several matters make the claim worth further discussion.

First, Google has repeatedly claimed in court that its selection of search results is protected speech and has won such claims in federal district court.¹⁴³ Second, by the mid-2000s, online search was a dominant method for finding information. Search engines like Google and Microsoft’s Bing function like a switchboard for the Internet—a means of connecting users, websites, and advertisements in one place. Indeed, so powerful are search engines as an information gateway that it is typical for governments to focus regulations on them as a means of trying to regulate speech.¹⁴⁴ Many countries, including the United States, censor search results to some extent for various reasons, ranging from political control of citizens to copyright protection.¹⁴⁵

The most prominent case discussing a search engine’s First Amendment rights is *Search King v. Google*.¹⁴⁶ Search King, a search optimization firm, promised to elevate its clients’ results in a Google search.¹⁴⁷ Google caught wind of the scheme and actively demoted Search King’s clients.¹⁴⁸ Unhappy with the demotions, Search King sued Google in Oklahoma for tortious interference with contract.¹⁴⁹ Google raised the First Amendment among its defenses.¹⁵⁰ The district court held that Google’s rankings of webpages are protected speech, and on that basis refused to grant Search King a preliminary injunction.¹⁵¹

¹⁴² See Oren Bracha & Frank Pasquale, *Federal Search Commission? Access, Fairness, and Accountability in the Law of Search*, 93 CORNELL L. REV. 1149, 1193-1201 (2008).

¹⁴³ See *Langdon v. Google, Inc.*, 474 F. Supp. 2d 622, 629-30 (D. Del. 2007); *Search King, Inc. v. Google Tech., Inc.*, No. 02-1457, 2003 WL 21464568, at *4 (W.D. Okla. May 27, 2003).

¹⁴⁴ See JACK GOLDSMITH & TIM WU, *WHO CONTROLS THE INTERNET?: ILLUSIONS OF A BORDERLESS WORLD* 70 (2006) (noting that the government can control usage of the Internet by controlling intermediaries, such as Internet Service Providers, search engines, browsers, and that it is difficult for content providers to “evade this control by just circumventing intermediaries”).

¹⁴⁵ See *id.* at 75 (noting that the United States, France, and Germany all try to control the public’s access to content through Google).

¹⁴⁶ 2003 WL 21464568.

¹⁴⁷ *Id.* at *1.

¹⁴⁸ *Id.* at *1-2.

¹⁴⁹ *Id.* at *2.

¹⁵⁰ *Id.*

¹⁵¹ *Id.* at *4 (“[U]nder Oklahoma law, protected speech—in this case, PageRanks—cannot give rise to a claim for tortious interference with contractual relations because it cannot be considered wrongful, even if the speech is motivated by hatred or ill will.”).

Under the doctrine of constitutional avoidance, the district court erred in reaching the First Amendment issue. The tort claim was frivolous and easily dismissed, based on the court's own finding that the acts were not wrongful.¹⁵² Constitutional avoidance was designed for exactly this kind of case, where a complex constitutional issue of first impression might be addressed unnecessarily.¹⁵³

Nor is the district court's reasoning particularly helpful (other than as an example of oversimplification). It construed Google's search results as protected speech because search results are a form of "opinion." As the court wrote: "PageRanks are opinions—opinions of the significance of particular web sites as they correspond to a search query. . . . Accordingly, the Court concludes that Google's PageRanks are entitled to 'full constitutional protection.'"¹⁵⁴

Holding that any communication is protected speech if it can be called an "opinion" is hopelessly overbroad. For example, a person's written will is, by its nature, something of a ranking of his relatives and friends, and thus an opinion, yet not one that gains First Amendment protection. The approach is particularly useless in the software context, for nearly any automated function could in some sense be called an "opinion." Car alarms express the alarm's opinion that a car is in danger of being stolen, and an automatic transmission that shifts from third to fourth gear might be said to be expressing either its (or the manufacturer's) opinion as to when to switch gears. It isn't that the opinionated selection of information can never be enough to make someone a speaker, a point to which I return in the consideration of concierge services. But calling something an "opinion" cannot be conclusive.¹⁵⁵

¹⁵² Oklahoma law requires that "the interference was malicious and wrongful, and was not justified, privileged, or excusable." *Id.* at *2. Google's demotions to protect the integrity of its search were clearly "privileged." *See* *Morrow Dev. Corp. v. Am. Bank & Trust Co.*, 875 P.2d 411, 416 (Okla. 1994) ("One who, by asserting in good faith a legally protected interest of his own or threatening in good faith to protect the interest by appropriate means, intentionally causes a third person not to perform an existing contract . . . does not interfere *improperly* with the other's relation if the actor believes that his interest may otherwise be impaired or destroyed by the performance of the contract or transaction." (alteration in original) (quoting RESTATEMENT (SECOND) OF TORTS § 773 (1977))).

¹⁵³ *See* *Ashwander v. Tenn. Valley Auth.*, 297 U.S. 288, 347 (1936) (Brandeis, J., concurring) ("The Court will not pass upon a constitutional question . . . if there is also present some other ground upon which the case may be disposed of."); *Veilleux v. Nat'l Broad. Co.*, 206 F.3d 92, 122 (1st Cir. 2000) (noting that "[s]tate courts, like their federal counterparts, normally seek to avoid construing common law rules so as to create serious constitutional problems").

¹⁵⁴ *Search King*, 2003 WL 21464568, at *4.

¹⁵⁵ *Cf. Genesee Cty. Employees' Ret. Syst. v. Thornburg Mortg. Sec. Trust* 2006-3, 825 F. Supp. 2d 1082, 1236 (D.N.M. 2011) ("The credit ratings at issue in this case are not entitled to

In defense of the district court, its opinion was an unpublished dismissal with limited precedential value. More elaborate arguments appear in Eugene Volokh and Donald Falk's white paper for Google, and in Stuart Benjamin's article in this issue.¹⁵⁶ Volokh and Falk's argument depends on the claim that Google is akin to a newspaper or other publisher.¹⁵⁷ A newspaper selects the most important stories of the day and presents them on the front page.¹⁵⁸ Google's search engine, similarly, ranks the world's webpages with respect to their relevance to various criteria, and hence, according to Volokh and Falk, gains the same protections.¹⁵⁹

Volokh and Falk's paper, however, misapplies the relevant law. Newspapers and other publishers, unlike mere functional carriers of information, gain protection because their work product reflects a knowing selection and arrangement of the entirety of the articles that make up the final newspaper.¹⁶⁰ The newspaper selects and endorses its articles, and it also usually commissions their authorship in the first place. The articles, in some sense, *are* the newspaper, and thus it makes sense to say something like, "Look what *The Washington Post* said about *X* yesterday."

In contrast, Google comes to a mass of information and indexes it. It does not endorse the sites it ranks—the millions of websites accessible through Google's search engine cannot be said to be Google's speech product. If a Google search turns up website *Y* about topic *X*, no one says, "It was interesting what Google had to say about *X*." Google's sorting of results and generation of an index might therefore be best characterized as "conduct" under *Rumsfeld*.¹⁶¹ Google helps its users find websites, but it does not sponsor or publish those websites.

Nor, as a legal matter, is Google responsible for the sites it links, as Google has repeatedly asserted to gain statutory immunities.¹⁶² As Bracha

First Amendment protection."); *Cal. Pub. Employees' Ret. Sys. v. Moody's Corp.*, No. CGC-09-49024, at 8 (Cal. Super. Ct. June 1, 2010) (credit ratings are not speech but "an economic activity designed for a limited target for the purpose of making money").

¹⁵⁶ VOLOKH & FALK, *supra* note 2.

¹⁵⁷ *Id.* at 4.

¹⁵⁸ *Id.* at 3-4.

¹⁵⁹ *Id.*

¹⁶⁰ *See supra* notes 118-24 and accompanying text.

¹⁶¹ *See supra* notes 63-64 and accompanying text.

¹⁶² *See, e.g., Parker v. Google, Inc.*, 242 F. App'x 833, 836-39 (3d Cir. 2007) (rejecting petitioner's claims of copyright infringement and defamation against Google because, among other reasons, Google was not the information content provider); Lastowka, *supra* note 141, at 1351 ("The procedure that Google follows affords it a 'safe harbor' from infringement liability under the Digital Millennium Copyright Act."). Though under some circumstances Google can be held liable under the copyright law. *See* 17 U.S.C. § 512(d) (2006) (listing exceptions to the exemption from liability for "information location tools" service providers).

and Pasquale point out, “Dogged by complaints related to the content of listed websites, search engines . . . claim merely to be the infrastructure or platform that delivers content.”¹⁶³ In short, as neither a conscious curator nor a legally responsible publisher of content, a Google search is a far cry from a newspaper.

Unlike Volokh and Falk, Stuart Benjamin relies not on a metaphor, but rather his restatement of the *Spence* test to conclude that search engine output counts as “speech” for the First Amendment. He writes,

The touchstone of the Court’s First Amendment cases has always been that the underlying activity entails an expression of ideas, even if it is not “a narrow, succinctly articulable message.” Communication thus seems to require, at a minimum, a speaker who seeks to transmit some substantive message or messages to a listener who can recognize that message. Thus, in order to communicate, one must have a message that is sendable and receivable and that one actually chooses to send.¹⁶⁴

While Benjamin’s “sending a message” standard accurately describes what the Court *says*, it doesn’t come close to describing what courts *do*. As applied to software, it misses, as I’ve repeatedly said, the importance of functionality. Taken more generally, the standard is overbroad: everything from nonpolitical vandalism through political assassination “sends a message,” but not all of that can reasonably be speech. That is why, as Robert Post puts it, the test “is transparently and manifestly false.”¹⁶⁵

In any event, even by Benjamin’s own standard, the argument that the operation of a search engine “entails transmission of ideas” is a stretch; it demands a conception of “idea” that widens the category beyond recognition. According to Benjamin, Google hopes to convey ideas like “quality” or “usefulness,”¹⁶⁶ but then so too did the designers of my coffeemaker.¹⁶⁷ A theory that turns the design of home appliances into a form of constitutional speech is probably overbroad. The point is that there necessarily must be some line between actual speech products and mere tools in order to avoid ridiculous results, and the *Spence* standard ain’t it.

If Google isn’t a vessel for ideas, what then, is it? While useful, Google’s main search, in particular, is probably best akin to a highly advanced and

¹⁶³ Bracha & Pasquale, *supra* note 142, at 1192.

¹⁶⁴ Benjamin, *supra* note 2, at 1461 (footnotes omitted).

¹⁶⁵ Post, *supra* note 69, at 1252.

¹⁶⁶ Benjamin, *supra* note 2, at 1470.

¹⁶⁷ Krups claims that its products convey “Precision, Perfection, Passion . . . beyond the everyday, beyond the norm, beyond reason.” KRUPS, <http://www.krups.com/> (last visited Apr. 10, 2013) (alteration in original).

powerful index. Neither the newspaper nor cable operator cases support the idea that the First Amendment protects something like an index, as opposed to content adopted or selected by the speaker as its own.¹⁶⁸ It is that step—the adoption of information, as a publisher, as opposed to merely pointing the user to it—that marks the difference.

Examining the respective purposes of the search engine creator and the newspaper editor is also illustrative. A newspaper's purpose is to communicate ideas, stories, impressions, and viewpoints to its audience. It is a definitional part of "the press" named in the First Amendment itself, with distinctive and unusual organizational goals. The search engine's primary purpose is, variously, to locate information or, more recently, provide answers, but in any event, its first objective is to serve as a tool for helping its users locate desired information within a giant collection of information. While searching "who was Walter Pater" produces Google's best guess of what the user wants, it does not produce a series of choices that represent the "direct espousal of a political or social doctrine"¹⁶⁹ on behalf of the designer. Rather, Google is just trying to find what the user wants. That is the difference, in some fundamental way, between a tool and speech—the first directly serves the user, while the second attempts to persuade him.

This analysis is subject to two caveats. First, over the last five years, both Google and Bing have begun to offer more of their own content in many searches, and these communications, produced and endorsed by the company itself, will sometimes be protected speech. Second, some of Google's specific searches are more carefully curated than its general search. Third, as stated earlier, a censorial motive on the part of the Government is a trump card that would change everything. Were Congress to pass a law asking Google to manually demote sites critical of "the World's Greatest Deliberative Body," it is not hard to predict immediate judicial scrutiny.

The fact that a search engine is functional does not mean the First Amendment has no role in search-related cases. Rather, as suggested by the discussion of Twitter and microblogging, the important First Amendment issues in search will often come from the perspective of users. Consider were a state to order all search engines to block results linking to information it deemed treasonous or a threat to national security (as the Chinese government does).¹⁷⁰ Laws based on the censorial motive would demand

¹⁶⁸ See *supra* subsection III.B.1.

¹⁶⁹ *Joseph Burstyn, Inc. v. Wilson*, 343 U.S. 495, 501 (1952).

¹⁷⁰ See GOLDSMITH & WU, *supra* note 144, at 95-104 (cataloguing efforts by the Chinese government to censor content online); Michael Wines, *Google to Alert Users to Chinese Censorship*, N.Y. TIMES (June 1, 2012), <http://www.nytimes.com/2012/06/02/world/asia/google-to-alert-users->

First Amendment scrutiny, though such scrutiny would mainly be based on the speakers' and users' rights. The reason is that the burden in such a case falls directly on the speaker and the listener, even though it is the search engine, the intermediary, that is being used as the enforcer.¹⁷¹

This may seem a superficial or technical difference, but it is not, for it changes the kind of cases that can be brought. The law in question must somehow burden a search engine's users. It is not enough that it is an annoyance to the owner of the search engine.

2. Automated Concierges and Other Services

A trend in the personal technology industries is for computers to take on the role of personalized assistants, or curators of sorts. This is an area where Apple and Amazon are leaders. Apple's iTunes offers, for example, a "Genius" function that creates a playlist based on its user's musical preferences. Amazon makes book recommendations based on what it thinks its customers will like, and so on.

When, if at all, do laws affecting such recommenders or concierges trigger First Amendment scrutiny? Imagine, for example, that a concierge gave advice that led to some injury. Would a product liability lawsuit be subject to First Amendment scrutiny?

We might first consider what the law has done with the human equivalents. On the one hand, private advice, especially communications in the course of professional services, is treated as a form of functional communication and doesn't usually trigger First Amendment protection.¹⁷² This is why a doctor may be liable for malpractice if he gives a very bad or grossly erroneous diagnosis. On the other hand, if a doctor writes a book that

to-chinese-censorship.html (noting that the names of many current and former Chinese leaders are banned from Google searches in China).

¹⁷¹ See GOLDSMITH & WU, *supra* note 144, at 68 (noting that governments often "control behavior not individually, but collectively, through *intermediaries*" like search engines and Internet Service Providers); Michael D. Birnhack & Niva Elkin-Koren, *The Invisible Handshake: The Reemergence of the State in the Digital Environment*, 8 VA. J.L. & TECH. 6, 20 (2003) (noting that online gateways, such as search engines, have transformed into "virtual gatekeepers" that help "control[] online traffic or affect[] access to information").

¹⁷² See, e.g., *Togstad v. Vesely, Otto, Miller & Keefe*, 291 N.W.2d 686, 695 (Minn. 1980) (per curiam) (affirming a lower court decision to hold a lawyer liable for negligent advice given to a client without any consideration of First Amendment implications); *Carson v. City of Beloit*, 145 N.W.2d 112, 114, 117 (Wis. 1966) (reviewing a trial court decision denying a negligence claim against doctors who incorrectly diagnosed a patient's condition and thus contributed to his early death without any consideration of First Amendment implications).

happens to be wrong about medical facts, his efforts are likely nonetheless to be protected by the First Amendment against product liability law.¹⁷³

Justice White explained the difference in these outcomes as follows:

One who takes the affairs of a client personally in hand and purports to exercise judgment on behalf of the client in the light of the client's individual needs and circumstances is properly viewed as engaging in the practice of a profession. . . . If the government enacts generally applicable licensing provisions limiting the class of persons who may practice the profession, it cannot be said to have enacted a limitation on freedom of speech or the press subject to First Amendment scrutiny. Where the personal nexus between professional and client does not exist, and a speaker does not purport to be exercising judgment on behalf of any particular individual with whose circumstances he is directly acquainted, government regulation ceases to function as legitimate regulation of professional practice with only incidental impact on speech; it becomes regulation of speaking or publishing as such, subject to the First Amendment's command¹⁷⁴

We are back, then, to the question that has been the center of this Article, but seen from a different angle. Is the output of a concierge program merely providing some function for its user like the doctor's diagnosis? Or does such advice fall closer to a recognized medium, the generalized book or instruction manual that happens to be communicating one-on-one simply as a matter of technological form?

To answer the question we must distinguish between two types of recommendation tools. Some concierge or recommendation programs rely on nothing more than data already provided by the user to deliver a "recommendation," which is really nothing more than reminding the user what she already wants. These are tools unlikely to be protected. In contrast, it is also

¹⁷³ See, e.g., *Winter v. G.P. Putnam's Sons*, 938 F.2d 1033, 1036 (9th Cir. 1991) (declining to "extend liability . . . to the ideas and expressions contained in a book" because of the First Amendment, even though the book was a "reference guide" with information on "the habitat, collection, and cooking of mushrooms"); *Barden v. HarperCollins Publishers, Inc.*, 863 F. Supp. 41, 42, 45 (D. Mass. 1994) (denying a claim of tortious misrepresentation against a publisher that released a book containing false information about the credentials of an attorney, and noting that the decision was partially driven by First Amendment considerations); *Jones v. J.B. Lippincott Co.*, 694 F. Supp. 1216, 1217 (D. Md. 1988) (noting that "[n]o case has extended [liability] to the dissemination of an idea or knowledge in books or other published material" because it might "chill expression and publication which is inconsistent with fundamental free speech principles"); *Lewin v. McCreight*, 655 F. Supp. 282, 284 (E.D. Mich. 1987) (rejecting a claim that a publisher failed to warn of defective ideas contained in its book, without reaching the issue of First Amendment protection).

¹⁷⁴ *Lowe v. SEC*, 472 U.S. 181, 232 (1985) (White, J., concurring in the judgment) (footnote omitted).

possible to imagine an intelligent concierge program that would be more distinctly opinionated and therefore protected. Imagine a program that embodied the programmer's deeply held views as to the best restaurants in New York. The program might reflect snobbish disregard of "New American" cooking and a celebration of French Cuisine above all else. Asked for recommendations, this program would return not simply a mechanical projection based on the user's previous choices, but rather a true recommendation based on the opinions, and indeed the prejudices, of the programmer.

This kind of concierge, I predict, is far more likely to qualify for First Amendment coverage, based on the idea that it can be called a speech product. The rule of thumb is this: the more the concierge merely tells the user about himself, the more like a tool and less like protected speech the program is. The more the programmer puts in place his opinion, and tries to influence the user, the more likely there will be First Amendment coverage. These are the kinds of considerations that ultimately should drive every algorithmic output case that courts could encounter.

CONCLUSION

The questions considered in this Article seem likely to grow in importance, and courts will be asked to answer important category-defining questions in the coming years. Perhaps it might be helpful if the somewhat hidden functionality doctrine of the First Amendment were less mysterious. This Article has made an effort to bring to light that obscure area of the law.