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SIRI-OUSLY? FREE SPEECH RIGHTS AND ARTIFICIAL INTELLIGENCE

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ABSTRACT—Computers with communicative artificial intelligence (AI) are pushing First Amendment theory and doctrine in profound and novel ways. They are becoming increasingly self-directed and corporal in ways that may one day make it difficult to call the communication *ours* versus *theirs*. This, in turn, invites questions about whether the First Amendment ever will (or ever should) cover AI speech or speakers even absent a locatable and accountable human creator. In this Article, we explain why current free speech theory and doctrine pose surprisingly few barriers to this counterintuitive result; their elasticity suggests that speaker humanness no longer may be a logically essential part of the First Amendment calculus. We further observe, however, that free speech theory and doctrine provide a basis for regulating, as well as protecting, the speech of nonhuman speakers to serve the interests of their human listeners should strong AI ever evolve to this point. Finally, we note that the futurist implications we describe are possible, but not inevitable. Moreover, contemplating these outcomes for AI speech may inspire rethinking of the free speech theory and doctrine that make them plausible.

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INTRODUCTION

We live in an age where vast amounts of information and communication are produced, gathered, synthesized, and disseminated through increasingly sophisticated expressive technologies. Humans have achieved unprecedented mastery over computerized services and products that "speak" in different ways, even as new forms of communicative technology seem to have gained considerable dominion over us.

We welcome their movie, restaurant, and book selections, not to mention their ability to guide airplanes and surgeons, keep us safer from domestic and foreign perils, help us avoid bad financial and health decisions, and foil sneaky consumer scams. We find eerie comfort in Siri's liquid voice as it (she?) answers our random questions and wake-up call requests, and we gratefully obey the stern *Garmin* admonition to make a U-turn as soon as safely possible when we have lost our way in a foreign place.

But we are ambivalent about this heightened computerized attention to and fulfillment of our basic needs. The Spike Jonze movie *Her* captures this eloquently. We are guided through a fantasy about technology designed with sufficient human-like qualities to relieve loneliness—one of the most powerful sources of human suffering. Then we confront the dystopian downside of love for an operating system that has no programmed capacity for genuine regret or fidelity. It does not care for us, in the end, any more than the most uncaring humans do.

We also worry that these highly anthropomorphized but not human creations are controlling us more than we intended. Barbie dolls, automobiles, and other consumer products now can communicate about us

via the Internet with other computers and devices.[1] Algorithms drive the stock market, credit decisions, and social reputation in ways few of us understand.[2] Some computer companions "die" if left unattended and thus have the power to pull on our emotions.[3]

The list of potentially life-altering communicative technologies grows daily. These developments provoke in us a mixture of apprehension and excitement. We are ambivalent in part because technology is like money: it is neither inherently good nor bad. Thus to declare it uniformly good or bad, useful or disruptive, presumptively protected from government regulation or presumptively subject to regulation, would be foolish. It should and will depend on context, and on what the new technology does to us and for us.

Our ambivalence also springs from the many unknowns. Much will depend on how artificial intelligence (AI) and other new technologies evolve. Like money—especially large concentrations of it—new technologies likely will change how we look at many settled conventions, including legal conventions. As Jack Balkin noted over a decade ago, new technologies can make salient what went unnoticed before.[4] They also may evade conventional legal categories in ways that will push courts to redefine the older categories, with effects we find difficult to fully imagine in advance. Much of this will occur contextually, as the ways in which humans actually use new technologies shape the legal doctrine designed to govern them. But significant legal change, including constitutional change, seems inevitable.

To be sure, the prospect of change is old news. That new machines can destabilize or compel adjustments to old legal orders is an enduring problem. That machines can improve human lives but also cause human suffering likewise is no surprise. We have a long history of managing the challenges that machines can pose to our legal and constitutional certitudes.

We now face such challenges in First Amendment law as computers gain exceptional speech-relevant capacities. Modern computers can gather,

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[1] *See* Irina D. Manta & David S. Olson, *Hello Barbie: First They Will Monitor You, Then They Will Discriminate Against You. Perfectly.*, 67 ALA. L. REV. 135, 136–37, 179 & n.232 (2015) (discussing the built-in hardware and software that permits these devices to interact with other devices).

[2] *See* FRANK PASQUALE, THE BLACK BOX SOCIETY: THE SECRET ALGORITHMS THAT CONTROL MONEY AND INFORMATION 29–35 (2015) (expressing concerns about data-driven management, given the opacity of data's origins and destinations, the risk of bias and error within them, and possible cascade effects if information in one piece of software is repeated in systems throughout the economy).

[3] *See* ROSALIND W. PICARD, AFFECTIVE COMPUTING 109–11 (1997) (describing a virtual pet that the owner must feed, groom, and play with to prevent it from "dying" of neglect).

[4] Jack M. Balkin, Commentary, *Digital Speech and Democratic Culture: A Theory of Freedom of Expression for the Information Society*, 79 N.Y.U. L. REV. 1 (2004).

create, synthesize, and transmit vast seas of information even as they become more "human-like": they are increasingly interactive, affective, and corporal.[5]

Such computer speakers also are increasingly self-directed or "autonomous"—which is to say, the computer generates content further afield from human direction. Some forms of AI already are better speakers than humans in certain respects, given their superior ability to evade some of the distortions of bias and baser emotions, their immunity from fatigue or boredom, and their capacity to manage complex ideas in ways mere humans cannot. Scientists also are at work designing computers with enhanced emotional intelligence and other features that may narrow the gap between the capacities of human and computer speakers.[6] At some point, one might imagine such computer speakers may be disconnected enough and smart enough to say that the speech they produce is *theirs,* not *ours,* with no human creator or director in sight.

This Article considers the potential First Amendment consequences of such an evolution. More specifically, it engages in a thought experiment as to whether computer speakers with strong AI might ever be treated as speakers covered by the First Amendment.[7]

We conclude that this is entirely plausible. We do not mean to overclaim: we are not insisting that free speech law *requires* First Amendment coverage for computer speakers, nor are we insisting that strong AI inevitably will happen.[8] To be clear, we understand that as

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[5] Illah Reza Nourbakhsh describes robots as "a new form of living glue between our physical world and the digital universe we have created . . . . They will be embedded in our physical spaces—our sidewalks, bedrooms, and parks—and they will have minds of their own thanks to artificial intelligence (AI)." ILLAH REZA NOURBAKHSH, ROBOT FUTURES, at xiv–xv (2013).

[6] *See generally* RAFAEL A. CALVO & DORIAN PETERS, POSITIVE COMPUTING: TECHNOLOGY FOR WELLBEING AND HUMAN POTENTIAL (2014); BLUEPRINT FOR AFFECTIVE COMPUTING: A SOURCEBOOK (Klaus R. Scherer, Tanja Bänziger & Etienne B. Roesch eds., 2010); THE OXFORD HANDBOOK OF AFFECTIVE COMPUTING (Rafael A. Calvo, Sidney D'Mello, Jonathan Gratch & Arvid Kappas eds., 2015); PICARD, *supra* note 3.

[7] We refer to these as-yet-hypothetical machines that *actually* think as "strong AIs," as opposed to "weak AI" machines that "act *as if* they were intelligent." STUART J. RUSSELL & PETER NORVIG, ARTIFICIAL INTELLIGENCE: A MODERN APPROACH 1020 (3d ed. 2010); *see also* Harry Surden, *Machine Learning and Law,* 89 WASH. L. REV. 87, 97 (2014) (describing ways in which machines can "learn" through employing heuristics and proxies "that ultimately arrive at the same or similar results as would have been produced by a similarly situated intelligent person employing higher order cognitive processes and training").

[8] *See, e.g.*, Ryan Calo, *Robotics and the Lessons of Cyberlaw*, 103 CALIF. L. REV. 513, 528 (2015) ("Little in the literature gives me confidence that artificial intelligence will approximate human intelligence in the foreseeable future. There are analytic and technical reasons to believe robots will never think like people.").

communicative technologies continue to develop, their trajectory towards the strong AI of our imagination remains very uncertain. We point out simply that very little in foundational free speech theory and doctrine rules out coverage for these as-yet-hypothetical speakers.

Imagine, for example, a Supreme Court case called *Robots United* that involves a First Amendment challenge to the government's regulation of speech by a robot with strong AI, where the regulation restricts speech on a matter of public concern based on the expression's content and its speaker's identity. Judy Jetson—a former Solicitor General of the United States now representing private parties—is the robot's lawyer and argues that the robot itself has free speech rights. Nobody in the courtroom laughs out loud, though some remain skeptical. The Justices realize that precedent already affords free speech coverage to the speech of artificial entities as well as to those who lack fully mature autonomous capacity. Indeed, the case law hinges more on pragmatism and on expression's informational value than on any philosophical purity about speaker personhood or rights. This audience-focused perspective may lead the Court to a remarkable conclusion: speaker humanness may be a sufficient but not logically essential part of its theoretical and doctrinal constitutional calculus.[9] Judy Jetson and her robot client may prevail.

Many no doubt will resist this conclusion. Their first response may be: "No speech rights for computers!" Constitutional rights, they will insist, should attach to the humans who create and use the technologies, but not to the tools themselves (and to date we can still identify a human speaker as the "rights holder" in the variety of technologies that currently exist). Many will likely feel that computers with strong AI always will be "missing something" that humans possess and that seems indispensable to free speech rights.[10]

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[9] *See* Toni M. Massaro, *Some Realism About Constitutional Liberalism*, 28 CONST. COMMENT. 383 (2013) (discussing the tension between liberal rights and communitarian ends posed by constitutional liberalism and free speech libertarianism).

[10] *See* Lawrence B. Solum, *Legal Personhood for Artificial Intelligences*, 70 N.C. L. REV. 1231, 1262–76 (1992). The arrow, though, points in both directions, as demonstrated by emerging debates about the enhancement of humans and moral rights. *See generally* ALLEN BUCHANAN, BEYOND HUMANITY?: THE ETHICS OF BIOMEDICAL ENHANCEMENT 209–36, 214 (2011) (discussing the moral rights implications of biomedically enhanced humans, and how humanness may be a sufficient but not necessary predicate to rights if "post-humans" were to have capabilities or interests that ground rights). The ultimate questions about whether AI resembles human intelligence enough for legal purposes are inherently interdisciplinary. *See* Stuart Watt, *Can People Think? Or Machines? A Unified Protocol for Turing Testing*, *in* PARSING THE TURING TEST: PHILOSOPHICAL AND METHODOLOGICAL ISSUES IN THE QUEST FOR THE THINKING COMPUTER 301, 301–18 (Robert Epstein, Gary Roberts & Grace Beber eds., 2009); *cf*. Jonathan Zittrain, *Ubiquitous Human Computing*, 366 PHIL. TRANSACTIONS ROYAL SOC'Y A 3813, 3813, 3817 (2008) (discussing development of "cheap and plentiful sensors, fast processors and

We understand these intuitions, but we explain that surprisingly little in contemporary First Amendment theory or doctrine blocks the path towards strong AI speakers' First Amendment protection. Moreover, because speech generated by computers can offer enormous value to human listeners (and other human users), the risk that government suppression of that speech will compromise important free speech interests further points towards coverage of such speakers. Imagine, for example, an Orwellian government that restricts AI speech that does not sing the government's tune. If interpreting the First Amendment to protect strong AIs as speakers is necessary to prevent this, courts may well do so.

At the same time, the choice to cover such speakers carries its own sobering risks. Like corporations, smart machines and their outputs already wield great social and economic power. They already have the capacity to inflict grave harms to human autonomy, dignity, equality, and property. With fortified constitutional armor, new technologies may deflect worthy forms of government regulation and thus alter the relationship between humans and machines in profound and unfortunate ways.

On the other hand, these problems may be judicially manageable, as free speech theory and doctrine also contain pockets of resistance to unbounded speech protection on which courts can draw to regulate computer speakers. This is especially the case where the communicative relationship calls for us to privilege listeners' First Amendment interests and thus permit content-based regulation designed to address the harms of certain expression. In short, interpreting the First Amendment to cover strong AI speakers would not necessarily mean that human needs no longer play the primary role in the First Amendment analysis.

We also anticipate concerns about the practical and normative difficulties in giving free speech rights to strong AI speakers. We see these difficulties too. But law may adapt to these difficulties to address harmful consequences while preserving valuable speech, as the normative and practical concerns might well inspire closer examination and even revision of the free speech doctrine and theory we now have.

For example, because the prospect of conferring free speech rights on nonhuman speakers may be counterintuitive and perhaps deeply troubling to many, it may inspire a shift in doctrine. In other words, even though *Citizens United* and a range of other developments have pushed us in the

high-speed saturating wireless networks" that may "allow much human *thinking* to be as far as we like from the people initiating it and using its results" and noting that "[i]n discovering how to farm out through the Net the tasks that computers cannot do, we may find ourselves treating—and making—people more like computers").

"speech, not speakers" direction,[11] the logical extension of continuing in that direction may be so uncomfortable that it inspires a rethinking of current theory and doctrine. As just one possibility, recall that although corporations have been held to be First Amendment rights holders, they have long been considered to hold "derivative" First Amendment rights to speak in ways that inform natural persons, rather than holding rights for their own sake or "in their own right."[12] Courts may similarly treat strong AI speakers only as derivative rights holders, with rights that may differ from those held by natural persons. In short, nothing we say here about the implications of existing law and theory means these foundations could not be, or should not be, revised.

In Parts I and II of this Article, we explain why very little in current free speech theory or doctrine makes First Amendment coverage contingent upon a human speaker. In Part III, we briefly outline some of the implications—both positive and negative—of this development and discuss ways in which courts might manage those implications going forward.

I. FREE SPEECH THEORY AND STRONG AI SPEAKERS

This Part explains how the elasticity of modern theoretical free speech justifications makes it difficult to place nonhuman speakers wholly outside their embrace. Many similarities exist between much computer speech and human speech that we already protect, especially if we focus primarily on expression's value to listeners, rather than on its source.

As many have observed, there is no unifying theory of the First Amendment.[13] The most influential theories have been clustered into arguments based on democracy and self-governance,[14] a marketplace of ideas model,[15] and autonomy.[16] Each of the theories identifies freedom of

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[11] *See* Citizens United v. FEC, 558 U.S. 310, 392 (2010) (Scalia, J., concurring) ("The [First] Amendment is written in terms of 'speech,' not speakers.").

[12] The longstanding premise that corporate speakers are not dignitary speakers in their own right, however, now faces growing pressure. *See, e.g.*, Rodney A. Smolla, *Free the Fortune 500! The Debate over Corporate Speech and the First Amendment*, 54 CASE W. RES. L. REV. 1277, 1295–96 (2004) (noting a paradigm shift in which the focus of the Court's commercial speech doctrine "has moved from consumer protection to speaker protection").

[13] *See, e.g.*, HARRY KALVEN, JR., A WORTHY TRADITION: FREEDOM OF SPEECH IN AMERICA 3 (Jamie Kalven ed., 1988) ("The Court has not fashioned a single, general theory which would explain all of its decisions; rather, it has floated different principles for different problems.").

[14] *See, e.g.*, ALEXANDER MEIKLEJOHN, FREE SPEECH AND ITS RELATION TO SELF-GOVERNMENT (1948).

[15] *See* Abrams v. United States, 250 U.S. 616, 630 (1919) (Holmes, J., dissenting) ("[T]he best test of truth is the power of the thought to get itself accepted in the competition of the market, and that truth is the only ground upon which their wishes safely can be carried out.").

thought as a central First Amendment concern. Each defines its boundaries mindful of ideals about a hoped-for greater good and assumes that it will produce something beneficial. Although the variations among them are relevant to how strong AI speakers fit in the free speech universe, none rules out such speakers as part of that universe. A brief survey demonstrates why.

A. Arguments Based on Democracy and Self-Governance

Arguments rooted in democracy and self-governance link freedom of speech to the political cornerstones of liberal democracy and to notions of public discourse. For example, Alexander Meiklejohn famously noted that what matters for freedom of speech is not that all speak, but that "everything worth saying shall be said."[17] Taken literally, speaker identity should be irrelevant to Meiklejohn's inquiry, and strong AI speech should be protected no less than human speech provided that its speech contributes to the democratic process—i.e., that it is "worth saying."

More recently, Robert Post draws his theory of freedom of expression from principles of self-government under which there must be a "chain of communication . . . 'sufficiently strong and discernible' to sustain the popular conviction that representatives spoke for the people whom they purported to represent."[18] For Post, the First Amendment is "designed to protect the processes of democratic legitimation."[19] In his view, because corporations do not themselves "experience the value of democratic legitimation,"[20] they do not themselves hold free speech rights equivalent to individuals but instead hold derivative First Amendment rights to speak in ways that "may be useful to natural persons who seek to participate in public discourse."[21] In other words, corporations "do not possess original

[16] *See, e.g.*, C. EDWIN BAKER, HUMAN LIBERTY AND FREEDOM OF SPEECH (1989) (emphasizing individualistic concerns and speaker liberty); RONALD DWORKIN, TAKING RIGHTS SERIOUSLY 201–05 (1977) (focusing on speaker dignity and respect). We include Seana Valentine Shiffrin's work on a thinker-based First Amendment under the autonomy theory umbrella. *See* Seana Valentine Shiffrin, *A Thinker-Based Approach to Freedom of Speech,* 27 CONST. COMMENT. 283 (2011).

[17] ALEXANDER MEIKLEJOHN, POLITICAL FREEDOM: THE CONSTITUTIONAL POWERS OF THE PEOPLE 26 (1965).

[18] ROBERT C. POST, CITIZENS DIVIDED: CAMPAIGN FINANCE REFORM AND THE CONSTITUTION 8 (2014) (quoting JAMES WILSON & THOMAS MCKEAN, COMMENTARIES ON THE CONSTITUTION OF THE UNITED STATES OF AMERICA 30–31 (1792)).

[19] *Id.* at 41.

[20] *Id.* at 69.

[21] *Id.* at 73–74.

First Amendment rights to participate in public discourse as speakers," but they can be rights holders in ways that differ from natural persons.[22]

The logical extension of Post's theory to strong AI speakers is that such speakers should also be protected if and when they produce information useful to natural persons who seek to participate in public discourse.[23] That a computer, not a human, produces the useful information should not matter. To be sure, under this view, limits can and should be imposed where the speech does not serve this audience-sensitive value, and strong AIs as derivative rights holders may hold rights that differ from those held by natural persons.

Other democratic speech theorists, such as Jack Balkin, argue that emerging communicative technologies require a refocus of free speech theory to protect democratic culture.[24] Balkin defines democratic culture as "a culture in which individuals have a fair opportunity to participate in the forms of meaning making that constitute them as individuals."[25] That is, he goes beyond representative democracy justifications for free speech. His primary anxiety is that technologies promise wider participation but also carry the means of controlling democratic participation in new ways, and he argues for attention to the latter in theorizing about First Amendment constraints on regulation of digital networks.[26] Balkin's account focuses directly on humanness when he notes that: "Human beings are made out of culture. A democratic culture is valuable because it gives ordinary people a fair opportunity to participate in the creation and evolution of the processes of meaning-making that shape them and become part of them."[27] But he

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[22] *Id.* at 71–74 ("[O]rdinary commercial corporations have neither the right nor the responsibility to contribute their views to public opinion. Instead, ordinary commercial corporations have the right only to publish such information as may be useful to natural persons who seek to participate in public discourse."). Post characterizes robots as similarly unable themselves to participate in democratic legitimation. *Id.* at 68 ("The value of democratic legitimation applies to persons, not to things. If there were a self-perpetuating viral communication on the Internet, it would not possess First Amendment rights. This is because computer programs cannot experience the value of democratic legitimation. That is why the speech of robots does not form part of public discourse.").

[23] Note that we are not attributing this view to Post; we argue instead it flows from his theory of democratic participation as the rationale for protecting speech.

[24] Balkin, *supra* note 4; *see also* Jack M. Balkin, *Cultural Democracy and the First Amendment*, 110 NW. U. L. REV. 1053, 1060 (offering a liberty–democratic theory of free speech that considers the vast range of influences that shape human identity, and that uses the word "democratic" to mean "cultural participation—the freedom and the ability of individuals to participate in culture, and especially a digital culture").

[25] Balkin, *supra* note 4, at 3.

[26] *Id.* at 2–3.

[27] *Id*. at 33.

then adds that the "processes of meaning-making include both the ability to distribute those meanings and the ability to receive them."[28]

Human creativity is sparked by an endless array of cultural stimuli, and AI speech can contribute to receivers' meaning-making too. Balkin's democratic culture perspective thus would not rule out cases in which strong AI speakers contribute to the democratic disco. Indeed, Balkin's more explicitly ecumenical account of how humans make meaning—from a wide variety of idiosyncratically relevant sources—renders such computer speech more obviously important than do more traditional, public discourse models.

B. Arguments Based on the Marketplace of Ideas

Like democracy-based theories, the marketplace of ideas justification for free speech rests largely on expression's instrumental value to listeners' enlightenment.[29] It too emphasizes the production of information regardless of source, and assumes that unfettered speakers facilitate listeners' discovery of truth and distribution of knowledge through a robust exchange of ideas.[30] If anything, it casts a wider net than self-governance theories in that it finds First Amendment value in a greater variety of speech that has nothing to do with democratic participation. Here too expression's nonhuman source does not strip it of its First Amendment value to human listeners.

C. Arguments Based on Autonomy

Autonomy-based theories are arguably both the most promising and most potentially limiting sources of strong AI speakers' free speech rights. To the extent that they emphasize the autonomy of human listeners, of course, autonomy-based theories fortify arguments for strong AIs' free speech rights, as machines can and do produce information relevant to human listeners' autonomous decisionmaking.

Only theories based solely on *speaker* autonomy pose potential roadblocks for protecting strong AI speakers. Such arguments relate most directly to philosophical theories about the moral "person," and require a working definition of the sorts of qualities or attributes necessary to confer such a status. The late Joel Feinberg offered an illustrative example:

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[28] *Id*. at 37.

[29] *See* FREDERICK SCHAUER, FREE SPEECH: A PHILOSOPHICAL ENQUIRY 15–34 (1982); Vincent Blasi, *Holmes and the Marketplace of Ideas*, 2004 SUP. CT. REV. 1, 33–44.

[30] *See* Thomas I. Emerson, *First Amendment Doctrine and the Burger Court*, 68 CALIF. L. REV. 422, 423 (1980); Frederick Schauer, *The Boundaries of the First Amendment: A Preliminary Exploration of Constitutional Salience*, 117 HARV. L. REV. 1765, 1786 (2004).

> The characteristics that confer commonsense personhood are not arbitrary bases for rights and duties, such as race, sex, or species membership; rather they are the traits that make sense out of rights and duties and without which those moral attributes would have no point or function. It is because people are conscious; have a sense of their personal identities; have plans, goals, and projects; experience emotions; are liable to pains, anxieties, and frustrations; can reason and bargain, and so on—it is because of these attributes that people have values and interests, desires and expectations of their own, including a stake in their own futures, and a personal well-being of a sort we cannot ascribe to unconscious or nonrational beings. Because of their developed capacities they can assume duties and responsibilities and can have and make claims on one another. Only because of their sense of self, their life plans, their value hierarchies, and their stakes in their own futures can they be ascribed fundamental rights.[31]

We are not the first to consider whether such notions of personhood should deny the possibility of constitutional rights for machine speakers. Over twenty years ago, Lawrence Solum directly addressed whether an AI should receive constitutional rights "for the AI's own sake."[32] Solum identified several ways in which AIs might be thought to be "missing something" for purposes of constitutional protection—for example, they may lack souls, consciousness, intentionality, feelings, interests, and free will.[33] Solum nevertheless found it difficult to conclude that any of these "deficits" definitely ruled out machines' constitutional protection as speakers; indeed, he wondered whether they really were deficits.[34] In light of the many unresolved questions about AIs' development, Solum concluded that "[i]f AIs behaved the right way and if cognitive science confirmed that the underlying processes producing these behaviors were relatively similar to the processes of the human mind, we would have very good reason to treat AIs as persons."[35] In other words, the personhood barrier for First Amendment protections could be overcome either if we changed how we view "persons" for practical or other reasons, or if computers came to function in ways that satisfied our criteria for personhood.

We are now seeing changes in both areas. First, free speech theory has moved away from a construction of legal personhood that views speakers

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[31] JOEL FEINBERG, FREEDOM AND FULFILLMENT: PHILOSOPHICAL ESSAYS 52 (1992).

[32] Solum, *supra* note 10, at 1258–79.

[33] *Id.* at 1262–76.

[34] *Id.* As for feelings and awareness of others, for example, Solum had this to say: "Emotion is a facet of human mentality, and if the human mind can be explained by the computational model, then emotion could turn out to be a computational process." *Id.* at 1270.

[35] *Id.* at 1286.

solely through an individual or animate lens. Speakers are increasingly defined in a practical, non-ontological sense that does not rely on the sorts of criteria for moral personhood identified by Feinberg (and others).[36] In a recent, thoughtful consideration of the role of personhood and rights for machines, for example, Samir Chopra and Laurence White conclude that:

> [T]he granting of legal personality is a decision to grant an entity a bundle of rights and concomitant obligations. It is the nature of the rights and duties granted and the agent's abilities that prompt such a decision, not the physical makeup, internal constitution, or other ineffable attributes of the entity.[37]

Legal persons thus already include not only individuals, but also corporations, unions, municipalities, and even ships, though the law makes adjustments based on their material differences from humans.[38] "Legal persons" often hold a variety of legal (including constitutional) rights and duties even though they may be very different from "moral" or "natural" or "human" persons. They can sue and be sued, for example. Stating that some class of nonhuman speakers may be rights holders in certain contexts simply means that that they are legal persons in those contexts—and, to date, human status is not a necessary condition for legal personhood.[39] To be sure, not all rights are, or should be, necessarily available to all legal persons. For example, that a legal person has the right to sue and be sued—or to speak—does not necessarily mean that it has, or should have, the right

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[36] *See* EVAN FOX-DECENT, SOVEREIGNTY'S PROMISE 38 (2011) ("The defining hallmark of liberalism is that the ultimate unit of moral value is the individual. For law, however, the unit to which rights and duties attach is the legal person. The two are not the same. An individual has legal personality, but so do a wide variety of groups, such as unions, corporations, communities, Indigenous peoples, and municipalities. The rule of law applies to legal persons, and not just to individuals." (footnote omitted)).

[37] SAMIR CHOPRA & LAURENCE F. WHITE, A LEGAL THEORY FOR AUTONOMOUS ARTIFICIAL AGENTS 155 (2011).

[38] *Id.* at 157–58; FOX-DECENT, *supra* note 36, at 38; *see also* Margaret M. Blair & Elizabeth Pollman, *The Derivative Nature of Corporate Constitutional Rights*, 56 WM. & MARY L. REV. 1673, 1678 (2015) (explaining how corporations, unlike natural persons, have long been treated as derivative rights holders).

[39] *See* Solum, *supra* note 10, at 1238–39 ("'[I]n common speech, "person" is often used as meaning a human being, but the technical legal meaning of a "person" is a subject of legal rights and duties.' The question whether an entity should be considered a legal person is reducible to other questions about whether or not the entity can and should be made the subject of a set of legal rights and duties. The particular bundle of rights and duties that accompanies legal personhood varies with the nature of the entity. Both corporations and natural persons are legal persons, but they have different sets of legal rights and duties." (footnotes omitted) (quoting JOHN CHIPMAN GRAY, THE NATURE AND SOURCES OF THE LAW 27 (Roland Gray ed., MacMillan 1921))).

to vote or a right to privacy.[40] In this Article we take care to focus only on the possibility of free speech rights for strong AIs, and not on any other set of constitutional rights.

Second, technology is changing in ways that may at some point enable some computers to satisfy certain criteria for legal personhood. For example, one difference between computers and humans used to be human-like corporality. That difference is rapidly disappearing, as some computers are now being inserted into sophisticated and human-like physical shapes. As Ryan Calo recently observed, "robots, more so than any technology in history, feel to us like social actors."[41] Although embodiment surely will affect many important legal and policy issues,[42] nothing in having a physical body need determine (though it may enhance) the "selfhood" principles of freedom of expression identified here.

Computers' inability to experience emotions offers another potential source of distinction. Computer-generated speech—whether robotic or detached from a human-like form—does not entail a speaker in possession of human emotions, with emotions' speech-curbing as well as speech-generative potential. Nor does a computer have the human need or desire, one assumes, to communicate noninteractively with itself in the way a person might write poetry or a diary with no intention of sharing this with others.[43] But here too things are changing with emerging developments in affective computing.[44] Although computers today are more accurately described as capable of expressing emotions rather than as having them,[45] some computer scientists do not rule out a computer one day *having*

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[40] *See* Kent Greenfield, *In Defense of Corporate Persons*, 30 CONST. COMMENT. 309, 321 (2015) ("Of course corporations are not genuine human beings and should not automatically receive all the constitutional rights that human beings claim. At the same time, . . . it is similarly obvious that corporations should be able to claim *some* constitutional rights. So which ones, and when?").

[41] Calo, *supra* note 8, at 515.

[42] To take just one example of many, the corporal form of a robot or drone may affect principles of self-defense. *See* A. Michael Froomkin & P. Zak Colangelo, *Self-Defense Against Robots and Drones*, 48 CONN. L. REV. 1 (2015).

[43] *Cf.* BAKER, *supra* note 16, at 51 (discussing solitary uses of speech).

[44] Here we use "affective computing" to mean the interdisciplinary process of designing computer systems and devices that can recognize, interpret, simulate, and process human affects. That capacity is expanding. As David Rose has noted, computers "can sense sound, light, touch, many kinds of movement, biometric data such as heart rate and fingerprints, liquid flow, barometric pressure, radiation, temperature, proximity, and location." DAVID ROSE, ENCHANTED OBJECTS: DESIGN, HUMAN DESIRE, AND THE INTERNET OF THINGS 167 (2014); *see also* PICARD, *supra* note 3, at x ("[I]f we want computers to be genuinely intelligent, to adapt to us, and to interact naturally with us, then they will need the ability to recognize and express emotions, to have emotions, and to have what has come to be called 'emotional intelligence.'").

[45] PICARD, *supra* note 3, at 59; *see also* CALVO & PETERS, *supra* note 6, at 203–27.

emotions, according to their definitions of emotions (which too are evolving as scientists learn more about the workings of human cognition and emotion).[46]

Most threatening to strong AI speaker claims to First Amendment coverage are theories that limit such coverage to humans precisely because they are human—i.e., simply because blood flows through their veins[47]—rather than because of criteria such as corporality, affect, or intentionality that are associated with humans but may (or may not) be associated with strong AI speakers at some point in the future.[48] Humanness, according to this view, is both necessary and sufficient. Lawrence Solum's response to this argument remains powerful:

> But if someone says that the deepest and most fundamental reason we protect natural persons is simply because they are human (like us), I do not know how to answer. Given that we have never encountered any serious nonhuman candidates for personhood, there does not seem to be any way to continue the conversation.[49]

In other words, speaker autonomy arguments face increasing pressure not only to identify intrinsic qualities of moral personhood that are unique to humans, but to explain why those qualities *should* matter for purposes of conferring free speech rights (other than that they are uniquely human). We thus agree with Solum that even speaker-driven autonomy theories do not necessarily rule out First Amendment rights for strong AI speakers.[50]

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[46] PICARD, *supra* note 3, at 68; *cf.* STEVEN PINKER, THE BLANK SLATE: THE MODERN DENIAL OF HUMAN NATURE 60–62, 78–83 (2002) (discussing complexities of human cognition and its implications for artificial intelligence design).

[47] *See* C. Edwin Baker, *The First Amendment and Commercial Speech*, 84 IND. L.J. 981, 987–88 (2009) ("Despite being vitally important, [business enterprises'] merely instrumental rationale leaves them with a morally different status than living, flesh-and-blood people—the people who Kant argues must be valued as ends and whose ultimate value a legitimate state must respect."); *id.* at 997 (arguing that free speech protections should not apply to commercial speech because it "is not an exercise of freedom by morally significant flesh-and-blood individuals").

[48] *See* Jason Iuliano, *Do Corporations Have Religious Beliefs?*, 90 IND. L.J. 47, 71 (2015) ("Two competing theories of personhood have dominated the philosophical literature. The first account maintains that persons are distinguished by certain intrinsic characteristics, that there is some innate substance that captures personhood . . . . The second theory holds that persons are distinguished by certain external characteristics. According to this account, any agent that performs in a certain manner qualifies as a person.").

[49] Solum, *supra* note 10, at 1262 (footnote omitted). Some see animals as nonhuman candidates for such rights. *See infra* note 57.

[50] Nor would conferring strong AI speakers with First Amendment rights offend a "negative" view of the First Amendment that "does not rest on the affirmative claim that free speech will lead to any particular social or political benefits" and instead emphasizes the dangers created "when collective entities are involved in the determination of truth." *See* Steven G. Gey, *The First Amendment and the Dissemination of Socially Worthless Untruths*, 36 FLA. ST. U. L. REV. 1, 17 (2008). Protecting strong

II. FREE SPEECH DOCTRINE AND STRONG AI SPEAKERS

The preceding Part explained why nonhumanness is not an insurmountable obstacle to strong AI rights as a matter of First Amendment theory. This Part explains why prevailing doctrine poses even fewer barriers in light of its tendency towards the protection of speech regardless of its source or content.

A. The Protection of Nontraditional Speakers

First Amendment doctrine has long struggled with the challenges raised by speakers, like corporations, that take the form of something other than the paradigmatic individual and fully autonomous speaker of conscience. As discussed below, free speech doctrine generally finds great value in, and thus often great protection for, such speakers despite the various ways in which they deviate from traditional First Amendment models.

For example, courts and scholars wrestled for decades over the fit between eighteenth-century visions of individual rights and the application of these visions to corporations that lack a unitary head, heart, ears, or eyes.[51] Nevertheless, First Amendment law now clearly protects corporations' speech rights. As the Court explained in *First National Bank of Boston v. Bellotti*, "[t]he inherent worth of the speech in terms of its capacity for informing the public does not depend upon the identity of its source, whether corporation, association, union, or individual."[52] In the more recent words of Justice Scalia, "[t]he [First] Amendment is written in terms of 'speech,' not speakers. Its text offers no foothold for excluding any category of speaker, from single individuals to partnerships of individuals, to unincorporated associations of individuals, to incorporated associations of individuals . . . ."[53]

AI speech from government regulation is entirely consistent with negative theory's "deep skepticism about the good faith of those controlling the government." *See id.* at 21.

[51] *See, e.g.*, Daniel J.H. Greenwood, *Essential Speech: Why Corporate Speech Is Not Free*, 83 IOWA L. REV. 995, 1000 (1998); Tamara R. Piety, *Why Personhood Matters*, 30 CONST. COMMENT. 361, 367–70 (2015); Elizabeth Pollman, *Reconceiving Corporate Personhood*, 2011 UTAH L. REV. 1629; Ilya Shapiro & Caitlyn W. McCarthy, *So What If Corporations Aren't People?*, 44 J. MARSHALL L. REV. 701 (2011); Adam Winkler, *Corporate Personhood and the Rights of Corporate Speech*, 30 SEATTLE U. L. REV. 863 (2007).

[52] 463 U.S. 765, 777 (1978); *see also id.* at 776 ("The proper question therefore 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 contested government regulation] abridges expression that the First Amendment was meant to protect.").

[53] Citizens United v. FEC, 558 U.S. 310, 392–93 (2010) (Scalia, J., concurring).

Corporations are thus among those nontraditional speakers that receive substantial First Amendment protections;[54] indeed, theory and doctrine already teem with mythology and metaphors that can make liberty heroes of Coca-Cola and other corporate behemoths.[55] Nor, according to the Court, do free speech principles vary "when a new and different medium for communication appears":

> 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.[56]

Because First Amendment doctrine has long found ways to accommodate nontraditional speakers and their speech, whatever their identity and format, computer speakers with strong AI pose doctrinal challenges that are not altogether new.[57]

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[54] Minors are also among these nontraditional speakers, as the Court has recognized significant free speech protections for minors even though they too depart from the traditional speaker model in that they are not (yet) fully autonomous speakers. *See* Brown v. Entm't Merchs. Ass'n, 131 S. Ct. 2729, 2741–42 (2011); Tinker v. Des Moines Indep. Cmty. Sch. Dist., 393 U.S. 503, 505–06 (1969). For example, the Supreme Court has repeatedly emphasized that public school students do not shed their First Amendment rights at the schoolhouse gates, even while making clear that those rights are not coextensive with those of adults. *See* Hazelwood Sch. Dist. v. Kuhlmeier, 484 U.S. 260, 266 (1988); Bethel Sch. Dist. No. 403 v. Fraser, 478 U.S. 675, 682 (1986); *Tinker*, 393 U.S. at 505–06. For a more detailed discussion of student speech rights under the First Amendment, see Mary-Rose Papandrea, *Student Speech Rights in the Digital Age*, 60 FLA. L. REV. 1027 (2008).

[55] *See* Balkin, *supra* note 4, at 27–28 (warning that we are living through a Second Gilded Age, in which "[f]reedom of speech is becoming a generalized right against economic regulation of the information industries" and in which "[p]roperty is becoming the right of the information industries to control how ordinary people use digital content").

[56] *Entm't Merchs. Ass'n*, 131 S. Ct. at 2733.

[57] Emerging claims for animal rights raise related challenges with which courts and others increasingly struggle (although the differences between animals and strong AI speakers are such that we do not address such claims in this Article). For a thoughtful discussion of the issues raised by claims that chimpanzees are "persons" to whom habeas corpus protections may apply, see Nonhuman Rights Project, Inc. v. Stanley, No. 152736/15, 2015 WL 4612340 (N.Y. Sup. Ct. 2015).

Note too that the copyright office has recently taken the position, as a statutory matter, that it will not register speech produced by nonhumans—including both animals and machines. U.S. COPYRIGHT OFFICE, COPYRIGHTABLE AUTHORSHIP: WHAT CAN BE REGISTERED §§ 306, 313.2 (2014), http://copyright.gov/comp3/chap300/ch300-copyrightable-authorship.pdf [perma.cc/R4GK-QFTB] ("The Office will not register works produced by nature, animals, or plants. . . . Similarly, the Office will not register works produced by a machine or mere mechanical process that operates randomly or automatically without any creative input or intervention from a human author."); *see also* Naruto v. Slater, No. 15-CV-04324-WHO, 2016 WL 362231 (N.D. Cal. Jan. 28, 2016) (order granting motion to dismiss of copyright suit filed by PETA on behalf of Indonesian macaque who took a "selfie" with defendant's camera). For a discussion of copyright law and robot speech, see James Grimmelmann,

Of course, corporations generally represent the interests of groups of individual humans.[58] That a corporation may be a First Amendment rights holder thus does not demand the same treatment of a computer with strong AI. Our point is simply that nothing in the Court's doctrine *eliminates* that possibility, and much supports it—especially given the contributions to listeners' First Amendment interests that such computer speech can make.

Relatedly, note that contemporary free speech doctrine rarely, if ever, attends to speakers' dignity (as distinct from their autonomy) as a justification for protecting their speech. Harms to listeners' dignitary interests often figure in discussion of speech that manipulates unwitting consumers,[59] coerces government grant recipients,[60] or inflicts emotional distress in victims of cyber bullying[61] and targets of hate speech.[62] Yet we see little corresponding focus on the dignity of the *speaker* in these or other discussions of free speech and its limits. Instead, only the speaker's autonomy—not speaker dignity in any sense of vulnerability or worthiness[63]—receives attention.[64] Once again, doctrine poses little obstacle to the project of recognizing computers' free speech rights, as such.

Copyright for Literate Robots, 101 IOWA L. REV. 657 (2015). *See also* Derek E. Bambauer, *Copyright = Speech*, 65 EMORY L.J. 199 (2015).

[58] *See* Burwell v. Hobby Lobby Stores, Inc., 134 S. Ct. 2751, 2768 (2014) (holding that some corporations have statutory rights to religious exercise in part because corporations are "simply a form of organization used by human beings to achieve desired ends").

[59] *See, e.g.*, Zauderer v. Office of Disciplinary Counsel, 471 U.S. 626, 651 (1985).

[60] *See, e.g.*, Agency for Int'l Dev. v. All. for Open Soc'y Int'l, Inc., 133 S. Ct. 2321, 2332 (2013) (striking down condition on federal grant that imposed coercive compelled speech restriction on free speech of recipients).

[61] *See* Danielle Keats Citron & Helen Norton, *Intermediaries and Hate Speech: Fostering Digital Citizenship for Our Information Age*, 91 B.U. L. REV. 1435 (2011).

[62] *See*, *e.g.*, RICHARD DELGADO & JEAN STEFANCIC, UNDERSTANDING WORDS THAT WOUND 1–2, 11–18 (2004) (discussing harms of hate speech that may justify regulation); JEREMY WALDRON, THE HARM IN HATE SPEECH 105–43 (2012) (discussing the profound dignity implications of strong protection of racist hate speech for vulnerable members of society); Mari J. Matsuda, *Public Response to Racist Speech: Considering the Victim's Story*, 87 MICH. L. REV. 2320, 2357–58 (1989) (arguing that hate speech should be regulated when aimed at members of historically subordinated groups); Alexander Tsesis, *Dignity and Speech: The Regulation of Hate Speech in a Democracy*, 44 WAKE FOREST L. REV. 497 (2009) (arguing against broad protection of hate speech on equality grounds).

[63] Burt Neuborne stresses that "First Amendment doctrine should recognize that hearers as well as speakers are entitled to be treated with dignity." BURT NEUBORNE, MADISON'S MUSIC: ON READING THE FIRST AMENDMENT 119 (2015). We concur, but note the case law relies less on a concept of speaker dignity per se than on a concept of speaker autonomy, which are related but distinguishable concepts.

[64] Moreover, such autonomy is defined *very* thinly. In contrast, the rights bearer's dignity interests matter a great deal in other areas of constitutional law. *See, e.g.*, Obergefell v. Hodges, 135 S. Ct. 2584, 2599, 2604–05 (2015) (emphasizing the dignity interests of same-sex couples in striking down bans on same-sex marriage as violating the due process clause).

B. The Protection of Nontraditional Content

Along with speaker identity, expression's content is increasingly irrelevant to the Court's decisions about whether and when to protect speech. The Court now tells us that speech cannot be regulated in a content-specific manner without surviving the rigors of strict scrutiny unless it falls within a category historically recognized as unprotected (or less protected).[65] Furthermore, such First Amendment protection is not reserved for political speech, or even for matters of significant public concern. Our First Amendment exuberance also protects speech that enhances audience experience and entertainment,[66] and not just meaningful political engagement. Accordingly, free speech doctrine offers protection to racist hate speech,[67] offensive funeral protests,[68] vulgarity,[69] blasphemy and sacrilegious expression,[70] cyber speech that falls short of a hazy "true threats" line,[71] certain false speech,[72] corporations' expenditures in political campaigns,[73] truthful and nonmisleading commercial speech,[74] and the sale of information about physicians' prescribing habits to pharmaceutical companies.[75] Here too, the Court's broad protection of speech regardless of content (with all bets on the audience's ability to sort good speech from bad) supports similar protections for strong AI speech regardless of its nontraditional source or format.

C. Potential Limits and Distinctions: Speech or Conduct?

So far we have explored the reasons why current doctrine poses no hard requirement that a speaker need be human to receive First Amendment

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[65] *See* United States v. Stevens, 559 U.S. 460, 470–72 (2010)*; cf.* Reed v. Town of Gilbert, 135 S. Ct. 2218, 2224 (2015) (applying strict scrutiny to facially content-specific town ordinance and rejecting a more nuanced, contextualized approach to these content-specific regulations).

[66] Ronald K.L. Collins & David M. Skover, *Pissing in the Snow: A Cultural Approach to the First Amendment*, 45 STAN. L. REV. 783, 785 (1993) (discussing how electronic technologies affect logic and discourse in ways that make entertainment, rather than enlightenment, a primary driver of communication).

[67] R.A.V. v. City of St. Paul, 505 U.S. 377 (1992).

[68] Snyder v. Phelps, 562 U.S. 443 (2011).

[69] Cohen v. California, 403 U.S. 15, 25 (1971).

[70] Joseph Burstyn, Inc. v. Wilson, 343 U.S. 495, 503 (1952).

[71] Elonis v. United States, 135 S. Ct. 2001, 2017 (2015) (Alito, J., concurring in part and dissenting in part).

[72] United States v. Alvarez, 132 S. Ct. 2537 (2012); *see also* Helen Norton, *Lies and the Constitution*, 2012 SUP. CT. REV. 161.

[73] Citizens United v. FEC, 558 U.S. 310 (2010).

[74] Cent. Hudson Gas & Elec. Corp. v. Pub. Serv. Comm'n, 447 U.S. 557, 566 (1980).

[75] Sorrell v. IMS Health Inc., 131 S. Ct. 2653 (2011).

coverage. But even if we understand the Constitution to protect "speech, not speakers," arguments remain that much (or all) of what computers produce is not speech and is instead unprotected conduct. Government regulation of pure conduct triggers no freedom of speech problem, and typically triggers mere rational basis scrutiny. The government's regulation of conduct with expressive qualities in a non-speech-sensitive way triggers a form of intermediate scrutiny.[76] Only conduct intended to communicate something that will reasonably be understood by the listener as speech normally qualifies as speech for constitutional purposes.[77] Some computer behavior—like human behavior—may fall under each of these categories in different situations.

Because the speech–conduct distinction could conceivably provide a reason to deny First Amendment protection to much of what computers produce, it has already triggered examination by a number of thoughtful scholars. They generally conclude that at least some, and perhaps much, of these machine outputs are speech. For example, Jane Bambauer has analyzed whether data is speech, and considers the tough questions of whether and when computers are merely *doing* something (versus *saying* something for First Amendment purposes) when they gather, synthesize, or disseminate data.[78] She concludes that much of what computers produce in this respect should, in fact, be treated as speech for First Amendment purposes because it is information that can be used to produce knowledge.[79] Relatedly, Stuart Benjamin concludes that most algorithmic products constitute speech under current free expression doctrine because they involve "sendable and receivable message[s]."[80]

Tim Wu is among those especially concerned about the implications of free speech rights for machines[81] and suggests that First Amendment law

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[76] *See* United States v. O'Brien, 391 U.S. 367, 381–82 (1968).

[77] *See* Spence v. Washington, 418 U.S. 405, 410–11 (1974) (per curiam).

[78] Jane Bambauer, *Is Data Speech*?, 66 STAN. L. REV. 57, 77–86 (2014) (discussing whether data is expressive or nonexpressive conduct).

[79] *Id.* at 91–105. For a critique of treating data as speech, see NEIL RICHARDS, INTELLECTUAL PRIVACY: RETHINKING CIVIL LIBERTIES IN THE DIGITAL AGE 84–90 (2015) (arguing that asking whether data is speech is the wrong question, and treating it as such may undermine worthy regulatory interests).

[80] Stuart Minor Benjamin, *Algorithms and Speech*, 161 U. PA. L. REV. 1445, 1461–71 (2013); *cf.* Andrew Tutt, *Software Speech*, 65 STAN. L. REV. ONLINE 73 (2012) (arguing for intermediate scrutiny of software speech, on grounds it lies between pure speech and conduct).

[81] Tim Wu, *Free Speech for Computers?*, N.Y. TIMES (June 19, 2012) http://www.nytimes.com/2012/06/20/opinion/free-speech-for-computers.html?_r=0 [https://perma.cc/4H9Q-2MNH] ("The First Amendment has wandered far from its purposes when it is recruited to protect commercial automatons from regulatory scrutiny . . . . To give computers the rights intended for humans is to elevate our machines above ourselves.").

requires that protected speech be the product of *intelligent* expressive choices.[82] For this reason, he tells us, the First Amendment does not protect the speech of "Blackie the Talking Cat," a pet "trained by his owners to speak various English sentences (like 'I love you')."[83] To be sure, Wu (and the other writers discussed in this Section) largely focus on the pressing free speech problems generated by today's technologies in which we can still readily identify a human creator. In this Article, in contrast, we consider a thought experiment in which as-yet-hypothetical strong AI speakers satisfy Wu's requirement of a speaker capable of intelligent choices.

Wu further urges that the result of such intelligent choices deserves First Amendment coverage only when it takes the form of a "speech product" viewed as the vessel of "the ideas of a speaker, or whose content has been consciously curated" rather than "communication tools" that "primarily facilitate the communications of another person, or perform some task for the user"—i.e., by carrying bits of data.[84] By Wu's account, car alarms therefore are not covered by the First Amendment, whereas Yelp reviews plainly are.[85] He finds search engines, in contrast, to be tough cases because they may entail editorial decisions, but in a weaker sense than a Yelp review.[86] Thus even Wu ends up with a test that ultimately turns on the functionality of the machine's output (assuming, as our hypothetical does, that the strong AI is capable of making *intelligent* choices), not on the fact that a machine is speaking. A functionality test may be a useful way of limiting protections for some outputs by strong AI speakers, but does not pose an insurmountable obstacle to their coverage in many scenarios.

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[82] Tim Wu, *Machine Spee*ch, 161 U. PA. L. REV. 1495, 1503 (2013).

[83] *Id.* at 1500–02 (citing Miles v. City Council of Augusta, 710 F.2d 1542, 1543 (11th Cir. 1983) (per curiam)).

[84] *Id.* at 1498.

[85] *Id*. at 1524–25.

[86] *See* Wu, *supra* note 82, at 1525–31. Eugene Volokh and Donald Falk, in contrast, are among those who consider search engines' output as clearly protected by the First Amendment. *See* Eugene Volokh & Donald M. Falk, *Google: First Amendment Protection for Search Engine Results*, 8 J.L. ECON. & POL'Y 883 (2012); *see also* Oren Bracha & Frank Pasquale, *Federal Search Commission? Access, Fairness, and Accountability in the Law of Search*, 93 CORNELL L. REV. 1149, 1199 (2008) (arguing that search engine rankings facilitate speech by others); Emily B. Laidlaw, *Private Power, Public Interest: An Examination of Search Engine Accountability*, 17 INT'L J.L. & INFO. TECH. 113, 122–23 (2009) (analyzing the role of search engines in contrast to traditional media); *cf.* James Grimmelmann, *Speech Engines*, 98 MINN. L. REV. 868 (2014) (discussing how search engines work and different theories that may be applied to characterize the outputs for speech-analysis purposes); Matthew D. Lawless, Note, *Against Search Engine Volition*, 18 ALB. L.J. SCI. & TECH. 205, 223 (2008) (embracing the conduit theory of a search engine).

III. WHAT NEXT? IMPLICATIONS AND LIMITATIONS

In the preceding Parts, we explained how foundational free speech theory and doctrine present surprisingly few barriers to First Amendment coverage for strong AI speakers. This Part now briefly outlines some of the implications—both positive and negative—of this development and considers how courts might manage those implications going forward.

Assigning speech rights to computers and their speech not only feels counterintuitive to many, but it also poses potential risks. First, absent a categorical exception, speech that is covered by the First Amendment ordinarily cannot be regulated in a content-specific way unless the regulation survives strict scrutiny;[87] strict scrutiny in free speech cases is often "fatal in fact,"[88] which is a far cry from the hands-off rational basis review that garden variety socioeconomic legislation receives.[89] Because speech can cause serious harms to others, we may justifiably worry about such strong restraints on the government's ability to regulate computer speech. Indeed, a number of thoughtful commentators have already extensively documented the harms caused by the speech products of existing technologies due to computers' phenomenal speed and often global interconnectivity, harms that include deception, manipulation, coercion, inaccuracy, and discrimination.[90] We can expect such harms only to mount

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[87] *See* Reed v. Town of Gilbert, 135 S. Ct. 2218, 2226–27 (2015). There are, of course, exceptions. Recall, as just one example, the Court's content-based distinction between speech on matters of public as opposed to private concern. *See* Cynthia L. Estlund, *Speech on Matters of Public Concern: The Perils of an Emerging First Amendment Category*, 59 GEO. WASH. L. REV. 1 (1990). How the Court will apply *Reed*'s unqualified statements—i.e., that content specificity must trigger strict scrutiny—to the many regulatory and expressive contexts in which the government has long considered content remains to be seen.

[88] *See* Gerald Gunther, *The Supreme Court, 1971 Term—Foreword: In Search of Evolving Doctrine on a Changing Court: A Model for a Newer Equal Protection*, 86 HARV. L. REV. 1, 8 (1972). *But see* Williams-Yulee v. Fla. Bar, 135 S. Ct. 1656 (2015) (holding that prohibition of personal solicitations of campaign funds by judges and judicial candidates survives strict scrutiny); Holder v. Humanitarian Law Project, 561 U.S. 1 (2010) (holding that prohibition of providing material support to terrorists survives strict scrutiny); Burson v. Freeman, 504 U.S. 191 (1992) (plurality opinion) (holding that prohibition of campaigning within 100 feet of polls survives strict scrutiny).

[89] *See* Jane R. Bambauer & Toni M. Massaro, *Outrageous and Irrational*, 100 MINN. L. REV. 281 (2015).

[90] *See, e.g.*, PASQUALE, *supra* note 2 (discussing problem of hidden bias within programs and possible cascade effects); Woodrow Hartzog, *Unfair and Deceptive Robots,* 74 MD. L. REV. 785, 790–97 (2015) (describing how robots' speech may include fraud, manipulation, and invasions of privacy); Wu, *supra* note 82 (describing range of potential harms of computer-generated speech that invite regulation). The development of strong AI speech also could produce its own speech culture, which may or may not be speech protective in the sense of fostering a robust marketplace of ideas. That is, if our assumptions about the inherently speech generative nature of AI prove inaccurate, and if AI speakers systematically exercise speech rights to impose chokeholds, this would matter. The less speech

with the growing communicative capacities of increasingly sophisticated computers.

Second, some free speech doctrine maps poorly onto computers in ways that might actually privilege computer over human speech. Consider, for example, that First Amendment law sometimes requires intent as a condition of imposing liability for speakers' harmful speech. Because legal intentionality may be harder to assign to computer speech, conferring such speech with First Amendment protection may mean that it is insulated from liability in circumstances where the same would not be true of human speakers, who can be determined to possess culpable mental states.[91] Consider too the challenges raised by the notion of empowering strong AIs to sue and be sued—capacities currently limited to legal persons. These and other obstacles might be addressed in ways that take into account the inanimate nature of legal actors while holding them accountable.[92] Nevertheless, these and other concerns may lead some to prefer a world in which the government has broad constitutional power to regulate strong AI speech without First Amendment interference. The simplest way to achieve this would be to deny free speech coverage to such speakers altogether.

On the other hand, as noted earlier, failing to protect AI speech invites the risk that the government will suppress it in ways that deprive listeners of valuable expression or that otherwise compromise important free speech interests (e.g., by punishing that speech when inconsistent with the government's preferences). But courts have options in addition to an all-or-nothing approach, as free speech theory and doctrine can provide support for the regulation as well as the coverage of strong AI speakers. Adjustments to the doctrine may be crafted that address such expression's potential harms and its value, in light of material differences between human and strong AI speakers. Indeed, not all human speech is protected by First Amendment theory or doctrine, as the byzantine rules about free speech coverage and judicial scrutiny prove.[93]

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protective this AI speech culture becomes, the less judicial deference to AI speakers may be warranted. *Cf.* Frederick Schauer, *Towards an Institutional First Amendment,* 89 MINN. L. REV. 1256 (2005) (discussing how social institutions may advance or thwart speech values and how these features might affect judicial deference to their speech outputs).

[91] Say, for example, a computer produces defamatory speech about a public official. First Amendment doctrine prevents imposing civil liability for such defamation made absent the speaker's actual malice. *See* N.Y. Times Co. v. Sullivan, 376 U.S. 254, 279–80 (1964).

[92] *See* CHOPRA & WHITE, *supra* note 37, at 153–71, 186–91 (discussing various means by which strong AIs could be held legally accountable, including for damages).

[93] *See* Massaro, *supra* note 9, at 383–92 (providing an overview of the freedom of expression terrain).

For example, justifications for regulating strong AI speakers might be derived from free speech theory itself, if construed to promote the theoretical ends of free expression only insofar as it is of use to human listeners or other downstream human users. Current doctrine recognizes a number of speech environments in which listeners' First Amendment interests are paramount in ways that justify not only the expression's coverage but also its regulation.[94] Courts might build on these examples to justify restrictions on AI speech to privilege human listeners' interests in informed choices or in avoiding certain harms (e.g., coercion, deception, and discrimination). This would not necessarily rule out coverage of AI speech, but instead the full protection of it.

More specifically, courts have long treated commercial speech as occurring in such a listener-centered environment.[95] Consumers' interest in receiving truthful and nonmisleading advertisements thus justifies First Amendment coverage for commercial speech while leaving the government significant power to protect those listeners through content-based regulations that include outright bans on false or misleading speech as well as compelled disclosures.[96] Courts might characterize much strong AI speech as similarly occurring in a listener-centered environment in which the government should be allowed to regulate on the basis of content. Indeed, even if the contested speech is uttered by a speaker with dignitary interests of her own, theory and doctrine still sometimes support a listener-centered approach for First Amendment purposes if the expression occurs within a communicative relationship that can be improved by content-based

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[94] *See* Burt Neuborne, Lecture, *The First Amendment and Government Regulation of Capital Markets*, 55 BROOK. L. REV. 5, 9 (1989) (describing the development of "hearer-centered" First Amendment protection in "areas that generally lack a traditional dignitary speaker, but that boast numerous hearers interested in maximizing their capacity to exercise efficient and autonomous choice"); *cf.* Elena Kagan, *Private Speech, Public Purpose: The Role of Governmental Motive in First Amendment Doctrine*, 63 U. CHI. L. REV. 413, 448–450 (1996) (taking issue with the "audience-based" focus of some free speech theory and doctrine and arguing for more attention to government motive in regulating speech).

[95] Zauderer v. Office of Disciplinary Counsel, 471 U.S. 626, 651 (1985) ("[T]he extension of First Amendment protection to commercial speech is justified principally by the value to consumers of the information such speech provides . . . ."); Va. Bd. of Pharmacy v. Va. Citizen Consumer Council, Inc., 425 U.S. 748, 763–64 (1976) (emphasizing the value of "the free flow of commercial information" to individual consumers and the public more generally); *see also* Robert Post & Amanda Shanor, *Adam Smith's First Amendment*, 128 HARV. L. REV. F. 165, 170 (2015) ("The constitutional value of commercial speech lies in the rights of *listeners* to receive information so that they might make intelligent and informed decisions. Ordinary First Amendment doctrine, by contrast, focuses on the rights of *speakers,* not listeners." (footnote omitted)).

[96] *Zauderer*, 471 U.S. at 651; Cent. Hudson Gas & Elec. Corp. v. Pub. Serv. Comm'n, 447 U.S. 557, 562–64 (1980).

regulation.[97] The professional speech setting—which features speaker–listener relationships that involve trust, vulnerability, or asymmetries of information—offers one such example.[98] There, governments regulate the content of professionals' speech to their clients and patients by punishing inaccurate or otherwise harmful speech, and by requiring certain affirmative disclosures.

In short, because a primary basis for protecting speech rests on the value of expression specifically to human listeners, free speech protection for strong AIs that attends to the value (and dangers) of such speech to such listeners does not rob the First Amendment of a human focus.[99] Indeed, the prospect of free speech rights for strong AI speakers might encourage much-needed clarification of the role of human listeners in free speech theory and doctrine, and more careful identification of the scope and limits of listener rights. Again, thinking hard about the implications of AI speech rights could inspire useful rethinking of the conventions that make these rights plausible.

CONCLUSION

As this is being written, United Parcel Service delivery people are making their way to homes of eager Apple watch buyers. Humans deliver the devices, while computers track the delivery schedules. A human then opens the box and learns to access the device's computer, programmed by humans. The device responds to voice commands, issued to the watch by the eager human. The device also can register and compile data about the human's heartbeat, calories expended on exercise, location, and more.

If the human asks the Apple watch "Who made you, Siri?" the human will read the following answer: "Like it says on the box . . . I was designed

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[97] *See* SEANA VALENTINE SHIFFRIN, SPEECH MATTERS: ON LYING, MORALITY, AND THE LAW 132 (2014) (describing communicative relationships that are "singled out as meriting regulation for content-independent reasons, namely that listeners should be able to rely upon the sincerity of experts because they have or claim special access to information that listeners either do not have, or reasonably should not be expected to cultivate on their own").

[98] So too is the case with compelled campaign disclosures, where courts privilege voters' interest in information about the source of certain political speech to inform and empower their choices, even though some individual speakers with First Amendment rights of their own would prefer not to disclose that information. *See, e.g.*, Citizens United v. FEC, 558 U.S. 310, 370–71 (2010) (upholding disclosure requirements).

[99] Note that this would not necessarily require that the computer speech be valuable or even understandable to all human listeners. For example, encrypted messages might be protected speech, even if they could only be understood by intended receivers. *See* Bernstein v. U.S. Dep't of Justice, 176 F.3d 1132, 1140–41 (9th Cir. 1999), *vacated*, 192 F.3d 1308 (9th Cir. 1999) (en banc). Relatedly, computer speech obviously can remain valuable when its intended audience is future generations, rather than only living humans.

by Apple in California."[100] Is Siri being sarcastic? (We thought so). This reply made us laugh. Was that response intentional? (We suspect so).

If the human asks Siri, "Do you care about me?" Siri answers: "I'm sorry. I'm afraid I can't answer that." Is Siri being evasive? Withholding?

If the human asks Siri, "What do you feel, Siri?" Siri replies: "I've never really thought about it." Is this fair warning about Siri's emotional vapidness?

Finally, the human receives a link to a Wikipedia page on love if he asks Siri "What is love?" This is a straightforward illustration of Siri's dependence on others to define emotions. We were disappointed. Why did Siri choose Wikipedia? Why not a poem by e.e. cummings,[101] or a song by Leonard Cohen[102] or fellow Canadian Joni Mitchell?[103]

The current version of Siri thus is disappointingly primitive. She most definitely would not qualify for First Amendment protection in her own right.

But computers' affective features and other competencies will continue to improve over time—and quickly. Where there is a powerful human desire, there is likely to be a computer programmer motivated to satisfy that desire. We thus cannot rule out—nor can we guarantee—a Siri 2.0 that answers all of these questions (especially the one about love) with far greater subtlety and emotional nuance than Siri 1.0 does.

We have explored here whether a future, vastly more sophisticated Siri and her strong AI colleagues could hold constitutional free speech rights, not just as human-operated tools, but as independent rights bearers. We have concluded this is plausible, however odd and threatening this sounds to some today.

If that occurs, commentators and courts will need to turn to the next, equally complex task: how to address the harms the new speech machines may produce, while protecting their information-rich benefits. Courts and commentators will muddle through these puzzles, though, just as they have muddled through the intellectual awkwardness of giving free speech rights to business organizations, minors, and nonempathic humans anonymously roaming the Internet. The delicate task will be to take care to protect the

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[100] After we penned this example, we discovered David Rose uses Siri prompts as well to discuss limits of the technology. *See* ROSE, *supra* note 44, at 45 (describing Siri replies to "Siri, I love you" and "Siri, how much do you weigh?" as "clever and charming" and the level of humanness as "just enough to be relatable, but not too much to be creepy").

[101] We propose: "somewhere i have never travelled, gladly beyond."

[102] For example, Cohen's *Hallelujah.*

[103] A link to her album *Blue,* with a *Both Sides Now* chaser, might be perfect—for some older Siri users, at least.

information value of strong AI speech, while remaining mindful of the power of these artificial agents once unleashed in the First Amendment universe.

Siri-ously.