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Robots as Legal Metaphors

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ROBOTS AS LEGAL METAPHORS

Ryan Calo*

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I. INTRODUCTION

Robots have been a part of the popular imagination since antiquity. And yet the idea of a robot — a being that exists somehow in the twilight between machine and person — continues to fascinate. Even today, as robots help us build cars and wage war, and as household name companies invest billions of dollars in robotics, we still think of robots as heralds of the future.

This Article looks at the specific role robots play in the judicial imagination. The law and technology literature is replete with examples of how the metaphors and analogies that courts select for emerging technology can be outcome determinative. Privacy law scholar Professor Daniel Solove argues convincingly, for instance, that George Orwell’s Big Brother metaphor has come to dominate, and in ways limit, privacy law and policy in the United States.¹ Even at a more specific, practical level, whether a judge sees email as more like

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1. See, e.g., Daniel J. Solove, *Privacy and Power: Computer Databases and Metaphors for Information Privacy*, 53 STAN. L. REV. 1393, 1395–98 (2001).

a letter or a postcard will dictate the level of Fourth Amendment protection she is prepared to extend it.²

But next to no work examines the inverse: when and how courts invoke metaphors about emerging technology when deciding cases about people. This essay examines the concept of the robot, not the literal artifact. The focus of this essay is the way judges use the word “robot,” not because the technology is before the court, but because the concept may be useful for advancing an argument explaining a decision. It turns out there are many such instances. A judge must not act like a robot in court, for example, or apply the law robotically.³ The robotic witness is not to be trusted.⁴ And people who commit crimes under the robotic control of another might avoid sanction.⁵

While the contexts of these cases vary tremendously — from tort, to criminal law, to immigration — the way judges describe robots is surprisingly uniform. A robot is a machine that looks and acts like a person but actually lacks discretion. Judges invoke robots as programmable machines, incapable of deviating from their instructions, even as they apply the term to real people.⁶ Indeed, judges seem to be using the term robot for what rhetoric scholar Professor Leah Ceccarelli calls its “polysemous” property, that is, its capability for holding multiple, simultaneous, but conflicting meanings.⁷ Invoking the metaphor of a robot permits the judge to justify, in lay terms, a particular kind of decision, such as the decision to absolve a living person who was under another’s control of legal responsibility or to discredit a witness whose testimony felt rote.

The judge’s use of the robot metaphor can be justice enhancing in some ways but problematic in others. Judges tend to invoke robots as a rhetorical measure to help justify the removal of agency from a person, often a person whom society already tends to marginalize.⁸ Further, to the extent judges’ rhetorical uses of robots reflect their actual understanding of the technology, judges hold an increasingly outdated mental model of what a robot is. One hopes that judges will update this mental model as actual robots continue to enter mainstream American life and create new legal conflicts.

This Article proceeds as follows. Part II gives some background on the considerable role of metaphor in law and technology. Meta-

2. See *infra* notes 27–29.

3. See, e.g., *Pennsylvania v. Local Union 542, Int’l Union of Operating Eng’rs*, 388 F. Supp. 155, 178 (E.D. Pa. 1974); *Allen v. State*, 276 So. 2d 583, 586 (Ala. 1973) (“The trial judge is a human being, not an automaton or a robot.”).

4. See, e.g., *Rong Lin v. Mukasey*, 299 F. App’x 10, 11 (2d Cir. 2008).

5. See, e.g., *Frye v. Baskin*, 231 S.W.2d 630, 635 (Mo. Ct. App. 1950).

6. See *infra* Part III.

7. See Leah Ceccarelli, *Polysemy: Multiple Meanings in Rhetorical Criticism*, 84 Q.J. SPEECH 395, 409 (1998).

8. See *infra* Section IV.C.

phors matter in law and can determine the outcome of legal and policy debates about emerging technology, as information privacy and other scholars explore in depth. Part III contributes to this literature by asking the inverse question: how do courts invoke an emerging technology such as robotics in reasoning about cases involving people? Bridging a wide variety of contexts, this Part walks through how judges have used a particularly evocative, unfamiliar technology rhetorically in order to justify a legal outcome.

Part IV examines what we can learn from the ways judges deploy the robot metaphor. In a process that leading law and literature scholar Professor James Boyd White labels “justice as translation,” metaphors can help explain and even justify legal decisions.⁹ But the pattern I detect in judges’ use of the word “robot” also helps uncover the ways that jurists sometimes deny agency to marginalized individuals or communities, as discussed in Part V. And ultimately, judges and their audiences will need to revisit the idea that robots are incapable of discretion; today and tomorrow’s robots are increasingly capable of exercising discretion and acting in unpredictable ways the law will have to address.¹⁰

II. THE ROLE OF METAPHOR IN LAW AND TECHNOLOGY

A metaphor is a means of achieving a rhetorical effect by directly equating disparate concepts.¹¹ Every metaphor is, in its own way, an argument. When Albert Einstein said that “all religions, arts and sciences are branches of the same tree,”¹² he meant to enlist the reader or listener’s imagination in arguing for a common kernel of thought. When Emily Dickinson referred to hope as a “thing with feathers,”¹³ she implicitly made a claim about the nature of resilience. The same is true of metaphor’s close cousin, analogy, as Justice Douglas’s famous dissent in the early electronic surveillance case *United States v. White* illustrates.¹⁴ Saying that a new technology or system is “like” or “as”

9. See generally JAMES BOYD WHITE, JUSTICE AS TRANSLATION: AN ESSAY IN CULTURAL AND LEGAL CRITICISM (1990) (describing how judges impart meaning to authoritative statutes and opinions through a process of translating them into a personal language understandable in the present context).

10. Ryan Calo, *Robotics and the Lessons of Cyberlaw*, 103 CAL. L. REV. 513, 549–50 (2015).

11. *Metaphor*, THE OXFORD DICTIONARY OF CRITICAL THEORY (2010).

12. ALBERT EINSTEIN, *Moral Decay*, in OUT OF MY LATER YEARS 9 (rev. reprt. ed. 1950).

13. EMILY DICKINSON, “Hope” is the Thing with Feathers, in THE POEMS OF EMILY DICKINSON (R.W. Franklin ed., reading ed. 1999).

14. *United States v. White*, 401 U.S. 745, 756 (1971) (Douglas, J., dissenting) (“What the ancients knew as ‘eavesdropping,’ we now call ‘electronic surveillance’; but to equate the two is to treat man’s first gunpowder on the same level as the nuclear bomb. Electronic surveillance is the greatest leveler of human privacy ever known.”).

a previous one suggests that the two should be treated the same under the law.

It should come as no surprise, therefore, that metaphor can and does shape policy commitments. In 2011, cognitive psychologists Professors Lera Boroditsky and Paul Thibodeau at Stanford University conducted an experiment in which they presented 485 subjects with a description of an imaginary city experiencing a surge in criminal activity.¹⁵ To one set of subjects, the researchers described crime in general as a “virus infecting the city” and “plaguing” neighborhoods.¹⁶ To the other, they described it as a “wild beast preying on the city” and “lurking in neighborhoods.”¹⁷ When asked for policy recommendations, subjects in the first condition recommended more enforcement fifty-six percent of the time and social reforms forty-four percent of the time.¹⁸ Subjects in the second condition recommended more enforcement seventy-four percent of the time and social reform twenty-six percent of the time.¹⁹ The authors concluded that even the alteration of a single word — a metaphor — can dramatically alter the frame subjects use to approach a social problem.²⁰

Judges also rely on metaphor and analogy when reasoning through new technologies. In the context of cryptography, for instance, Professor Michael Froomkin explores the four metaphors that seem to have the most appeal to judges: the concept of encryption described as a “car” that carries information, a kind of “language,” a “safe” that hides secrets, or a “house” in which conversation takes place.²¹ According to Froomkin, a judge’s selection of metaphor in turn reveals the level of First and Fourth Amendment protections the judge is willing to apply to encrypted communications. If encryption is merely a car in which messages travel, it gets lower constitutional protection.²² But if encryption is a language, it may receive more robust protection.²³ Among Froomkin’s conclusions, which bear revisiting in light of contemporary debates around government interference in cryptography, is that “ideas are weapons.”²⁴ And indeed, technology giants Apple and Microsoft specifically invoked speech in their recent efforts to resist government surveillance. Apple claimed that the government’s demand that the company assist the FBI to break

15. Paul H. Thibodeau & Lera Boroditsky, *Metaphors We Think with: The Role of Metaphor in Reasoning*, PLOS ONE, Feb. 23, 2011, at 3.

16. *Id.*

17. *Id.*

18. *Id.* at 4.

19. *Id.*

20. *Id.* at 2.

21. A. Michael Froomkin, *The Metaphor is the Key: Cryptography, the Clipper Chip, and the Constitution*, 143 U. PA. L. REV. 709, 861 (1995).

22. *See id.* at 879.

23. *See id.*

24. *Id.* at 843–44.

into an iPhone amounted to compelled speech,²⁵ whereas Microsoft argued that prohibitions on giving information to consumers about surveillance orders it received amounted to a free speech limitation.²⁶

Litigants often deploy metaphor and analogy strategically in an effort to channel the law's application to a new technology. The Department of Justice saw early but mixed success with the argument that email should be thought of as analogous to a postcard instead of a letter.²⁷ A person who writes a postcard does not enjoy a reasonable expectation of privacy under the Fourth Amendment because the content of the card is freely legible to everyone in the delivery chain.²⁸ A letter, in contrast, can only be read if opened.²⁹ Some courts accepted the Justice Department's analogy at face value, and consequently, ratcheted down the level of Fourth Amendment protection to which email was entitled.³⁰ A similar battle of ideas has been playing out around whether storing records in the "cloud," that is, on a remote server, is tantamount to showing the documents to a third party — in which case there may not be a reasonable expectation of privacy as against the provider — or more like keeping them in a safety deposit box.³¹

Professor Orin Kerr observes that the Internet itself presents an interesting metaphorical problem, which he calls the "problem of perspective."³² He offers several examples from criminal procedure in which the way a court envisions a technology can determine the scope of Fourth Amendment protection it deserves.³³ Imagine that officers have been given a warrant to search a white-collar defendant's house in connection to alleged embezzlement. They execute the warrant and find a computer screen open to the defendant's online bank account. Are the officers permitted to use what they see? Can they scroll down or click on links? The answer depends, Kerr argues, on whether we employ the internal perspective, wherein "the Internet provides a window to a virtual world,"³⁴ or the external perspective, wherein "the

25. Apple Inc.'s Motion to Vacate Order Compelling Apple Inc. to Assist Agents in Search, & Opposition to Government's Motion to Compel Assistance at 30, *In re Search of an Apple iPhone Seized During Execution of a Search Warrant on a Black Lexus IS300*, Cal. License Plate 35KGD203, No. 5:16-cm-00010 (C.D. Cal. Feb. 25, 2016).

26. First Amended Complaint for Declaratory Judgment at 4, *Microsoft Corp. v. U.S. Dep't of Justice*, No. 2:16-cv-00538 (W.D. Wash. Apr. 14, 2016).

27. See SUSAN W. BRENNER, *CYBERCRIME AND THE LAW: CHALLENGES, ISSUES, AND OUTCOMES* 158 (2012).

28. See *id.* at 157–58.

29. See *id.*

30. See *id.*

31. See, e.g., *Warshak v. United States*, 490 F.3d 455, 470 (6th Cir. 2007), *vacated*, 532 F.3d 521 (6th Cir. 2008).

32. Orin S. Kerr, *The Problem of Perspective in Internet Law*, 91 *GEO. L.J.* 357, 357 (2003).

33. *Id.* at 364–68.

34. *Id.* at 359.

Internet is simply a network of computers located around the world and connected by wires and cables.”³⁵ If the former, officers may be entitled to enter through the window because they are already allowed to be in the house.³⁶ If the latter, the officers may have to get a separate warrant to follow the information to a new physical location.³⁷

As alluded to above, Solove argues that information privacy law in general suffers from an overreliance on a particular metaphor: Big Brother.³⁸ For Solove, the Big Brother metaphor from Orwell’s *Nineteen Eighty-Four* captures the dangers around much intentional surveillance but has “significant limitations for the database privacy problem,”³⁹ meaning the centralized collection, processing, and storage of personal information by institutions. Solove prefers the metaphor of *The Trial* by Franz Kafka — the story of an individual under the arbitrary scrutiny of a secret court, the inner workings of which he does not understand.⁴⁰ “As understood in light of the Kafka metaphor,” writes Solove, “the primary problem with databases stems from the way the bureaucratic process treats individuals and their information.”⁴¹ Solove goes on to use the Kafka metaphor to critique existing privacy law as well as market-based solutions and to propose solutions focused on the power asymmetry between individuals and institutions, including accessibility to records and limitations on secondary use of personal information.⁴²

In short, the law and technology literature — particularly around information privacy — is plainly aware of the role metaphor can play in channeling legal outcomes in the context of emerging technology.

Students of robotics law have not missed the importance of metaphor either. For example, professor of law Neil Richards and professor of robotics William Smart expressly call attention to the importance of metaphor and legal analogy in their work *How Should the Law Think About Robots?*⁴³ These authors conclude that courts should be careful to characterize robots as tools, albeit programmable ones, because doing otherwise runs the risk of committing what the

35. *Id.* at 360.

36. *Id.* at 367–68.

37. *Id.*

38. Solove, *supra* note 1, at 1395–98.

39. *Id.* at 1417.

40. *Id.* at 1421.

41. *Id.*

42. *Id.* at 1423–30.

43. Neil Richards & William Smart, *How Should the Law Think About Robots?*, in *ROBOT LAW 4* (Ryan Calo, A. Michael Froomkin & Ian Kerr eds., 2016); *see also* Meg Leta Jones & Jason Millar, *Hacking Analogies in the Regulation of Robotics*, in *OXFORD HANDBOOK OF THE LAW AND REGULATION OF TECHNOLOGY* (Karen Yeung, Roger Brownsword & Eloise Scottford eds. forthcoming 2016).

authors call “the Android Fallacy.”⁴⁴ The Android Fallacy refers to the idea that robots should be treated differently merely because they resemble people.⁴⁵ As the MIT Media Lab’s Kate Darling argues, someday it may be necessary for courts and lawmakers to acknowledge the ways people react differently from machines.⁴⁶ And merely because robots run on programming does not mean, as courts seem to assume, that they lack the ability to behave in spontaneous ways. I will return to this last theme in Part IV.

III. THE ROBOT ITSELF AS A LEGAL METAPHOR

Robots are rapidly entering the mainstream. Robots help perform surgery,⁴⁷ drones deliver packages,⁴⁸ and cars and trucks are beginning to drive themselves.⁴⁹ Eventually courts and officials will have to grapple with the best metaphor for a given robot in a particular legal context. Arguably, they have begun to do so already. The Federal Aviation Administration (FAA) recently decided that drones were “aircraft,” leading to severe limitations on their use in delivery to date.⁵⁰ Had the FAA analogized drones to, for instance, carrier pigeons, they would have no jurisdiction.⁵¹ The Food and Drug Administration (FDA) decided to analogize surgical robots to laparoscopic surgery, thereby accelerating the approval process — possibly in problematic ways.⁵² Adverse incident reports filed with the FDA since

44. Richards & Smart, *supra* note 43, at 4, 18 (“Finally, we argue that one particularly seductive metaphor for robots should be rejected at all costs: the idea that robots are ‘just like people.’ . . . We call this idea ‘the Android Fallacy.’”).

45. *Id.* at 4.

46. See, e.g., Kate Darling, *Extending Legal Protection to Social Robots: The Effects of Anthropomorphism, Empathy, and Violent Behavior Towards Robotic Objects*, in *ROBOT LAW*, *supra* note 43, at 230.

47. See, e.g., Meera Senthilingham, *Would You Let a Robot Perform Your Surgery By Itself?*, CNN (May 12, 2016), <http://www.cnn.com/2016/05/12/health/robot-surgeon-bowel-operation/> [<https://perma.cc/L8W2-KQPH>].

48. See, e.g., Laura Stevens & Georgia Wells, *UPS Uses Drone to Deliver Packages to Boston-Area Island*, WALL ST. J. (Sept. 23, 2016), <http://www.wsj.com/articles/ups-uses-drone-to-deliver-package-to-boston-area-island-1474662123> (last visited Dec. 14, 2016).

49. See, e.g., Max Chafkin, *Uber’s First Self-Driving Fleet Arrives in Pittsburgh This Month*, BLOOMBERG (Aug. 18, 2016), <http://www.bloomberg.com/news/features/2016-08-18/uber-s-first-self-driving-fleet-arrives-in-pittsburgh-this-month-is06r7on> [<https://perma.cc/LSV2-FN7R>].

50. See, e.g., Sarah L. Bruno, et al., *Delivery by Drone? Maybe When Pigs Fly*, *SAYS FAA*, LEXOLOGY (Sept. 30, 2016), <http://www.lexology.com/library/detail.aspx?g=34cccbfe-4102-41b4-8469-0bbf2eccb91c> [<https://perma.cc/UX25-83QH>].

51. I owe this point to Sam Sudar, then a PhD candidate in Computer Science and Engineering at the University of Washington. Sudar wrote a paper on the topic of robots substituting for animals in a variety of contexts.

52. RYAN CALO, CTR. FOR TECH. INNOVATION AT BROOKINGS, *THE CASE FOR A FEDERAL ROBOTICS COMMISSION* 10 (Sept. 15, 2014), https://www.brookings.edu/wp-content/uploads/2014/09/RoboticsCommissionR2_Calo.pdf [<https://perma.cc/52HU-HJ8J>].

approval indicate that surgical robotics can go wrong in ways that laparoscopic surgery generally does not.⁵³

This Article investigates a different phenomenon: when and how judges invoke emerging technology rhetorically in order to motivate or justify decisions about people. In many ways, this represents the inverse of the metaphor question law and technology scholarship usually addresses. I chose to examine this phenomenon by looking specifically at the concept of a robot — in part due to our longstanding fascination with robots dating back centuries,⁵⁴ and in part because of the technology's growing relevance to daily life. Robots are ultimately meant to serve as a case study of the broader topic of technology rhetoric in law.

My basic methodological approach was to search Westlaw for use of the word “robot” and its derivatives in the headnotes of cases. Headnotes represent an imperfect heuristic in that they are written not by judges but by lawyers after a case has been decided. However, because headnotes are meant to capture the court's core reasoning, and because they contain language often cited by subsequent decisions, they seemed the best place to start for an examination of robot metaphors in judicial reasoning. From these I eliminated instances where an actual robot was at issue in the case. Rather, in this project I focused on how and why judges invoke robots to decide issues that arguably have nothing to do with the technology.

I grouped the examples according to themes for further analysis in this Part. What I found is that judges invoke robots in a surprising variety of contexts, but they are almost always making the same rhetorical move. Specifically, the judge offers the robot as a metaphor for a discretionless person, thereby making one of three implicit claims: (1) neither society generally, nor legal institutions specifically, should require people to be robots; (2) courts should discredit a person with robotic qualities; or (3) the law should absolve people of responsibility who, in causing harm, acted as the mere robots of a party not before the court.

A. The Robot as Judicial Foil

Robots appear repeatedly in appellate court opinions analyzing judicial bias. Confronted with a variety of allegations, many opinions

53. *See id.*

54. The sixth century manuscript *Shai Shih t'u Ching* catalogues mechanical orchestras and other automata that predate the birth of Christ. *See* Vitali Vitaliev, *Spontaneous Toys*, 4 *ENG'G & TECH.* 86, 86 (2009) (discussing the *Shai Shih t'u Ching* or “Book of Hydraulic Excellencies”). *See generally* IBN AL-RAZZAZ AL-JAZARI, *THE BOOK OF KNOWLEDGE OF INGENIOUS MECHANICAL DEVICES* (Donald R. Hill trans. & ann., 1974) (discussing al-Jazari's mechanical drawings and writings from the thirteenth century).

remind us that judges are flesh-and-blood people. Litigants may expect judges to be robotic, but they are not. Nor should they be. We would not want to dispense with human judgment.

The claim that a judge is not a robot arises in at least two contexts. The first is when trial judges react to the presentation of evidence or engage in other behavior that conveys an emotional investment in the proceedings. Perhaps a judge laughs with a funny witness, suggests pity for the plight of the victim, or displays impatience over delay or interruption.⁵⁵ Opposing counsel may seize upon this moment in an effort to show that the judge is prejudiced against their client, but courts almost universally reject these challenges, often citing to the reasoning of *Allen v. State*.⁵⁶ *Allen* involved a defendant who challenged his murder conviction in part on the basis that the facial expressions of the judge during trial revealed bias and prejudiced the jury against the defendant.⁵⁷

The Supreme Court of Alabama rejected the defendant's challenge in *Allen* on the basis that "the trial judge is a human being, not an automaton or a robot."⁵⁸ Implicit in the court's reasoning was the idea that while a robot judge might not betray emotion, neither would it be capable of true wisdom or justice. As the court put it: "We have not, and hopefully never will reach the stage in Alabama at which a stone-cold computer is draped in a black robe, set up behind the bench, and plugged in to begin service as Circuit Judge."⁵⁹

Even in the absence of a reaction from the bench, litigants may question whether the very identity of a jurist suggests partiality. A fascinating and historically important case is that of *Pennsylvania v. Local Union 542*, from 1974.⁶⁰ *Local Union 542* involved allegations of racial discrimination made by twelve black workers against a predominantly white labor union.⁶¹ The union sought to disqualify the federal district court judge who was assigned to the case on the basis that the judge was black and had recently addressed a group of black historians, at which time the judge allegedly displayed an "intimate tie with and emotional attachment to the advancement of black civil

55. See, e.g., *Keppel v. BaRoss Builders, Inc.*, 509 A.2d 51, 56 (Conn. App. Ct. 1986) ("Above all, it showed that a judge is a human being, not the type of unfeeling robot some would expect the judge to be."); *Fletcher v. State*, 277 So. 2d 882, 883 (Ala. 1973) ("[T]he trial judge is not required to be a robot without emotional reaction to happenings in his courtroom. Impatience with excessive delay by counsel is a natural and understandable reaction.").

56. See, e.g., *United States v. Stewart*, 65 F.3d 918, 931–32 (11th Cir. 1995) (finding no error in judge's lecture about racism at sentencing).

57. *Allen v. State*, 276 So. 2d 583, 585–86 (Ala. 1973).

58. *Id.* at 586.

59. *Id.*

60. *Pennsylvania v. Local Union 542*, Int'l Union of Operating Eng'rs, 388 F. Supp. 155 (E.D. Pa. 1974).

61. *Id.* at 163 n.7.

rights.”⁶² In rejecting the challenge to his own impartiality, Judge Higginbotham noted that white judges were free to pursue their own interests and concerns outside the bench; no one expected white judges to renounce their heritage or history to maintain impartiality.⁶³ The union’s recusal motion implied that black judges, in contrast, must be “robots who are totally isolated from their racial heritage and unconcerned about it,” or at least refrain from discussing that heritage.⁶⁴

“Should they be robots?” Judge Higginbotham asked of black judges.⁶⁵ He didn’t think so. I suspect his implication is twofold. The first implication is that applying a near-impossible standard to one set of judges and not another on the basis of race violates the principle of equal treatment. But this point could be made in a number of ways. He could simply argue that political affiliations should not be a factor for black judges any more than for white ones. By invoking a robot, specifically, Judge Higginbotham is creating a judicial foil. Society does not, and should not, expect justice to be dispensed by a machine incapable of exhibiting wisdom, judgment, and where appropriate, mercy to litigants. These qualities are inseparable from human experience.

A second context in which the specter of the robot judge arises is in discussions of judicial discretion. A judge need not, for instance, “robotically recite” every statutory consideration in the course of meting out a sentence under the federal sentencing guidelines,⁶⁶ or “recite robotic findings” to establish that conditions have changed in a given country for purposes of rejecting asylum.⁶⁷ Much American law is codified, but the code is not software code that a judge executes like a computer.⁶⁸ One assumes a judge has considered relevant factors unless confronted with evidence to the contrary.

Some judges have also argued that trial courts do not become the robots of the appellate courts, which reverse their decisions. Obviously, a decision by a higher court “severely limits the kinds of considerations open” to a lower court on remand.⁶⁹ At the same time: “An appellate mandate does not turn a district judge into a robot, mechani-

62. *Id.* at 157.

63. *See id.* at 165.

64. *Id.* at 178.

65. *Id.* at 180. In this case, the court believed that the petitioners expected black judges to be more robotic than white ones.

66. *United States v. Ruiz-Salazar*, 785 F.3d 1270, 1273 (8th Cir. 2015). Other cases dispense with the requirement to make “robotic incantations that each factor has been considered.” *See, e.g., United States v. Blackmon*, 662 F.3d 981, 988 (8th Cir. 2011) (citing *United States v. Lamoreaux*, 422 F.3d 750, 756 (8th Cir. 2005)).

67. *Hoxhallari v. Gonzalez*, 468 F.3d 179, 182 (2d Cir. 2006).

68. *Cf. John Greenman, On Communication*, 106 MICH. L. REV. 1337, 1374–75 (2008) (advancing a free-will theory of the First Amendment that disputes computer code is speech).

69. *Barrow v. Falck*, 11 F.3d 729, 731 (7th Cir. 1993).

cally carrying out orders that become inappropriate in light of subsequent discoveries or changes in the law.”⁷⁰ A lower court judge looking for wiggle room might say that the mere fact that her ruling was overturned does not mean that she has lost all humanity or judgment, that is, become a person in appearance only — in other words, more robotic. The metaphor of a robot once again helps the judge dramatize this point.

The intuition that justice must be meted out by humans may go deeper still, beyond the individual judge. Although we introduce process precisely to reduce bias and promote consistency, there is nevertheless a sense among some courts and many litigants that an overly robotic judicial system is not a fair one. Each person is entitled to an individual hearing. Someone — maybe a judge, maybe a jury of one’s peers — should sit in considered judgment. For example, in a challenge to health regulations, the appellants in *Kirk v. Secretary of Health and Human Services* argued that the new guidelines, which eliminate the need to hear from a vocational expert, “robotize the adjudicative process, in violation of due process guarantees.”⁷¹

Although the court in *Kirk* ultimately rejected appellants’ claim, similar arguments have succeeded in other contexts. In *Jianli Chen v. Holder*, for example, the First Circuit noted that the role of the immigration appeals board “is not meant to be robotic” and that the board has the “prerogative — indeed, the duty — of examining the basis for, and then synthesizing and analyzing, the [immigration judge’s] findings.”⁷² Embedded in this logic is the notion that, although we are famously “a government of laws, and not of men,”⁷³ those laws are to be interpreted and applied by real men and women.

B. The Robot as Foil for the Juror or Witness

The judge is not a robot and neither is the quintessential finder of fact, the juror. It is not necessarily evidence of bias for a juror to laugh or cry during trial, and our Constitution requires courts to scrutinize the bases upon which litigants strike jurors from service.⁷⁴ Courts also

70. *Id.*; cf. *Jianli Chen v. Holder*, 703 F.3d 17, 23 (1st Cir. 2012) (“This multifaceted role is not meant to be robotic. The [Board of Immigration Appeals] is not bound simply to parrot the precise language used by the [immigration judge] but, rather, may use its own vocabulary.”).

71. *Kirk v. Sec’y of Health & Human Servs.*, 667 F.2d 524, 531 (6th Cir. 1981).

72. *Jianli Chen*, 703 F.3d at 23; cf. *Stewart v. Harris*, 508 F. Supp. 345, 347 (D.N.J. 1981) (overturning an administrative law judge’s decision for reliance on a predetermined grid to deny disability benefits instead of an individualized inquiry).

73. JOHN ADAMS, *Novanglus, Addressed to the Inhabitants of the Colony of Massachusetts-Bay, No. VII*, in 4 THE WORKS OF JOHN ADAMS 106 (Charles C. Little & James Brown eds., 1851) (emphasis omitted) (defining a republic).

74. *See, e.g., Batson v. Kentucky*, 476 U.S. 79, 89 (1986) (holding that striking jurors solely based on their race violates the Equal Protection Clause of the Fourteenth Amend-

assume that jurors who do serve are people with lived experience, not machines that can be programmed by either party at bar.⁷⁵ Thus, for instance, the court invoked robots in *Burch v. Reading Co.*, a case in which a widow with two children broke her ankle on the job and sued her employer, a railroad company.⁷⁶ The judge at trial instructed the jury to disregard closing testimony that the plaintiff had little children who depended on her.⁷⁷ According to the appeals court, the trial judge's instructions to disregard emotion were acceptable because jurors "are not robots who come to the court house with minds tabula rasa and who respond mechanically to every impression they receive in the courtroom."⁷⁸

Courts also assume witnesses to be ordinary people. When they instead act like robots in court, it is generally considered a bad sign. Several cases hold robotic behavior in court against the litigant. It may be that cold, calculating people are not viewed as trustworthy; that the truth cannot be rehearsed; or that justice is somehow an intrinsically humanistic process.⁷⁹ Regardless, the sentiment that robotic behavior is evidence of untrustworthiness is reflected in cases such as *Rong Lin v. Mukasey*, where a witness appeared to be "robotically repeating a script rather than testifying from actual experience,"⁸⁰ or *Kun Ling Chen v. U.S. Department of Justice* in which the witness testified well enough but "appeared 'robotic' when pressed for details on cross examination."⁸¹

It is worth pausing to note that *Rong Lin*, *Kun Ling Chen*, and many of the other cases finding testimony to be insufficiently spontaneous arise in the context of immigration where English may not be the defendant's first language and external documentation may be hard to authenticate.⁸² I will return to the significance of labeling immigrant witnesses as robots in the subsequent Part. For now, suffice it to say that such a finding can support an adverse finding as to credi-

ment). Courts also grant certain latitude to spectators at a trial in displaying emotion. See Meghan E. Lind, Comment, *Hearts on Their Sleeves: Symbolic Displays of Emotion by Spectators of Criminal Trials*, 98 J. CRIM. L. & CRIMINOLOGY 1147, 1165 (2008).

75. See *Burch v. Reading, Co.*, 240 F.2d 574, 577 (3d Cir. 1957).

76. *Id.* at 576–77.

77. *Id.* at 576.

78. *Id.* at 577.

79. I pause to note that the standard could be quite different for experts. No case I came across sought to detract from expert testimony on the basis that it felt coached or robotic. Rather, the issue came up in contexts, like asylum cases, where you might expect emotional intensity. Litigants can also try to leverage previous robotic behavior in court for advantage, as when a defendant attempts to withdraw a guilty plea that he delivered "like a robot." *United States v. Osei*, 679 F.3d 742, 745 (8th Cir. 2012).

80. *Rong Lin v. Mukasey*, 299 F. App'x 10, 11 (2d Cir. 2008).

81. *Kun Ling Chen v. U.S. Dep't of Justice*, 195 F. App'x 36, 38 (2d Cir. 2006).

82. See *infra* notes 179–80.

bility.⁸³ Apparently, testifying in court requires some measure of spontaneity in order to be effective.⁸⁴

C. The Robot as Conduit of Responsibility

The previous two sections focus on the use of the robot metaphor by judges, jurors, and witnesses to describe behavior taking place within the judicial system. A final set of examples, explored in this Section, involves the use of the robot metaphor by judges in considering whether to hold parties accountable for conduct that landed them in the system in the first place. Stated simply, the judge in certain instances conceives of the defendant as having been, at all relevant times, a kind of robot under the control of some operator not before the court. Alternatively, the judge might attribute the actions of an entity, such as a corporation, to the defendant because the entity is simply an extension of the person — his or her robot. While the emphasis is on previous conduct in the world and not participation in the court system, the metaphoric use of the robot remains consistent. The robot is still a person lacking discretion. The idea of a robot in this context becomes synonymous with a person by all appearances who nevertheless lacks autonomy or free will.⁸⁵

In the 1950 case *Frye v. Baskin*, the plaintiff owned a Jeep that he let his minor son drive.⁸⁶ His son John was on a date with the defendant, a minor named Kathryn, whom John asked to take the wheel.⁸⁷ She did not know how to drive but, “[u]nder his tutelage,” she managed to drive the car around town for a time.⁸⁸ At one point, John called out a direction to the girl and then reversed himself, telling her to go left instead of right.⁸⁹ Kathryn tried to comply and wound up crashing the vehicle.⁹⁰ In the resulting suit by the father against his son’s friend, the court refused to find the defendant negligent as a matter of law and upheld the jury’s verdict.⁹¹ According to the court,

83. That the cases involving robotic witnesses tend to arise in the context of immigration could be a function of the fact that an immigration court originally came up with the formulation. Or it may reflect something else, such as a language or cultural barrier. *See infra* Section IV.C.

84. *See infra* Section IV.C.

85. A note about scope: clearly the notion of free will in philosophy and law has a contentious and involved history. I will not attempt here to unpack whether such a concept exists or what its role should be in legal discourse. Rather, I only call attention to the ways litigants and jurists invoke the concept of robot — apparently, an entity human in appearance but lacking free will — in an effort to avoid or transfer culpability for wrongdoing.

86. *Frye v. Baskin*, 231 S.W.2d 630, 632 (Mo. Ct. App. 1950).

87. *Id.*

88. *Id.* at 633.

89. *Id.*

90. *Id.*

91. *See id.* at 632–33.

plaintiff's son John was really the driver.⁹² The defendant "controlled the car the same as if she had been a robot or an automaton. When John said 'turn,' she turned, mechanically."⁹³ She was merely "the instrumentality by which John drove the car."⁹⁴ Accordingly, "if it were negligence, it was John's and not hers."⁹⁵ The jury was accordingly entitled to find no fault on the part of the defendant.⁹⁶

Judges have also alluded to robotic metaphors in attempting to parse consent. *Molko v. Holy Spirit Association* involved allegations of fraud, false imprisonment, and intentional infliction of emotional distress against the Unification Church that came before the Supreme Court of California.⁹⁷ Plaintiffs claimed that they had been brain-washed into joining and remaining with the church until each was found and "deprogramme[d]" by professionals sent by their respective parents.⁹⁸ Robots do not come up in the majority opinion, which reversed the lower court's dismissal of the plaintiffs' fraud claim.⁹⁹ But the dissent found the distinction between people and robots to be crucial: "The evidence before us . . . clearly indicates that the Church's indoctrination did not render appellants mindless puppets or robot-like creatures."¹⁰⁰

Similar discussions occur in the context of corporate law. Judges invoked robotic behavior in a series of cases involving the standing and knowledge of companies that were unwittingly part of a Ponzi scheme to absolve a particular defendant of responsibility.¹⁰¹ One court did not see "captive corporations" as independent entities but rather as the "robotic . . . tools" of the scheme's architect.¹⁰² As a mere robot of the real perpetrator, neither the corporation nor its investors could be imputed with knowledge of the scheme and therefore lacked the fraudulent intent necessary to support a finding of liability. However, once released from the control of the Ponzi scheme, these companies regained their status as separate corporate entities with standing to sue the architect for fraud and other damages.¹⁰³

92. *Id.* at 635.

93. *Id.*

94. *Id.*

95. *Id.* at 636.

96. *See id.* at 635 ("Neither does the evidence show negligence on the part of defendant as a matter of law (if it shows negligence at all, which we need not decide.)").

97. *Molko v. Holy Spirit Ass'n for the Unification of World Christianity*, 762 P.2d 46, 49 (Cal. 1988) [hereinafter *Molko v. Holy Spirit Ass'n*].

98. *Id.* at 51–52, 54.

99. *Id.* at 61.

100. *Id.* at 69 (Anderson, J., concurring & dissenting). The dissent cited heavily a 1983 article on whether religious converts were the "robots" of their church. Robert Shapiro, *Of Robots, Persons, and the Protection of Religious Belief*, 56 S. CAL. L. REV. 1277 (1983).

101. *See Janvey v. Democratic Senatorial Campaign Comm., Inc.*, 712 F.3d 185, 190, 192 (5th Cir. 2013); *Scholes v. Lehmann*, 56 F.3d 750, 754 (7th Cir. 1995).

102. *Janvey*, 712 F.3d at 190, 192.

103. *Id.* at 192.

Conversely, under the “alter ego” theory of corporate liability, a corporation that is entirely under an accused individual’s control is not entitled to treatment as a separate entity.¹⁰⁴ The doctrine says litigants can reach beyond a corporation to the personal assets of a company principal to the extent he or she uses the company to further purely personal interests.¹⁰⁵ But the standard litigants must meet in order to invoke the alter ego theory is a high one. The plaintiff must establish that the controlled corporation acted “robot-like” and in “mechanical response” to the controller’s “pressure on its buttons.”¹⁰⁶ Only then will the court use the alter ego theory as a basis to pierce the corporate veil.

While the contexts of the robot metaphor explored in this Section vary tremendously — from immigration, to labor, to tort, to corporate fraud — there is a clear commonality among them. The metaphor of the robot appears as shorthand for a person without will. In the judicial imagination, a robot is what a person or entity becomes when completely controlled by another. Such a person or entity is not capable of fault or knowledge, leaving the individual controlling the machine — the programmer — at fault instead. The effect is, interestingly enough, temporary. Thus, the defendant who later learns to drive will be responsible for any accident she causes;¹⁰⁷ the victims of a religious cult may be deprogrammed and bring suit,¹⁰⁸ and an entity freed from the robotic control of a Ponzi scheme regains the usual rights of a corporation.¹⁰⁹ While a robot, however, no one sees, hears, or does evil.

IV. CRITIQUING METAPHORICAL USES OF ROBOTS

To sum up the discussion so far: law and technology scholarship recognizes the importance of selecting a metaphor or analogy for a new technology. The choice of one metaphor over another can turn out to be outcome determinative. Little attention is paid, however, to the inverse question: how judges invoke technology itself as a metaphor in deciding cases where the technology is not before the court.

I begin this dialogue by examining the use by courts of the metaphor of a robot. Robots have long fascinated American society as objects with human-like attributes, and today they are becoming an

104. See *Partners Coffee v. Oceana Servs. and Prods.*, 700 F. Supp. 2d 720, 737 (W.D. Pa. 2010).

105. *Id.* Indicia that a corporation exists only to fulfill personal interests include the lack of corporate formalities, functioning directors, or corporate records.

106. *Culbreth v. Aмоса (Pty) Ltd.*, 898 F.2d 13, 15 (3d Cir. 1990).

107. See generally *Frye v. Baskin*, 231 S.W.2d 630 (Mo. Ct. App. 1950).

108. See generally *Molko v. Holy Spirit Ass’n.*, 762 P.2d 46 (Cal. 1988).

109. See generally *Janvey v. Democratic Senatorial Campaign Comm. Inc.*, 712 F.3d 185 (5th Cir. 2013).

increasingly mainstream technology. I found that courts bring up robots in a wide variety of contexts but almost always for the same reason: they are trying to conjure up the idea of a person without a will of his or her own. Judges do this because: (1) they want to paint a proposition as ridiculous, as when trial judges deny they are the simple robots of the appellate courts who overturn them; (2) they wish to call testimony into question as rehearsed or wooden, as when they discredit robotic answers on cross examination; or (3) they seek to absolve a party before the court of responsibility, as when they claim the driver of a car was the robot of the passenger. The goal in each of these instances is different, but the metaphor is the same: robots are programmable machines without independent will but otherwise resemble people.

The previous two Parts were descriptive — they touched upon law and technology’s engagement with metaphor and analogy and then described the ways American courts have invoked robots as metaphors when no technology was before the court. This Part takes an analytic and ultimately normative turn. The first Section examines how the way courts have talked about robots in the past might influence the way courts decided cases that actually involve robots. This Section stays largely within the existing law and technology framework but offers that previous metaphor selection in non-technology contexts might provide insights into the metaphors judges will use when confronted with conflicts involving the technology itself.

The second Section goes beyond the existing framework by delving deeper into the reasons and mechanisms beyond judges’ use of the robot as a metaphor. This Section draws from the law and literature tradition, particularly the “justice as translation” approach developed by leading law and literature theorist Professor James Boyd White,¹¹⁰ and positions robots as a convenient way for judges to explain and justify a legal decision to exercise or deny autonomy. While this rhetorical move is justice enhancing in the ways Boyd White argues, it can also be normatively suspect.

The final Section, drawing from critical race theory and critical feminist studies, discusses the contexts in which analogizing an individual to a robot may obscure a deeper antipathy toward a particular marginalized segment of the population.

A. Are Robots Still How Judges Envision Them?

If, as Part II shows, the selection of a metaphor or analogy for a technology by courts can be outcome determinative, it follows that the way judges conceive of robots could affect their decisions in cases

110. BOYD WHITE, *supra* note 9.

involving robotics. Where the conception is accurate we might not be concerned. But as robotics evolves to a point where existing robot metaphors differ significantly from the technology's actual instantiation in the world, then the gap between the judge's mental model and reality could be problematic. At a minimum, litigants in robotics law cases should be cognizant of a potential uphill battle in correctly characterizing the technology.

Part III describes a certain uniformity in the way judges invoke the robot metaphor: a robot is a programmable machine without discretion to act outside of the intention of its designer.¹¹¹ This has actually been a relatively accurate description of the robots that judges and others have seen to date. In another project, I comb through hundreds of instances over six decades to examine the ways courts have decided cases involving robots in the past.¹¹² These cases vary tremendously by context, and include everything from maritime salvage doctrine to performance taxes. By and large the robots at issue are, as courts assume, programmable machines with no minds of their own.

Consider the 1987 case *Comptroller of the Treasury v. Family Entertainment Centers*, in which a Maryland special appeals court had to decide whether life-sized, animatronic puppets that dance and sing at the Chuck E. Cheese children's restaurants trigger a state tax on food "where there is furnished a performance."¹¹³ In its analysis, the court looked to Webster's dictionary, which defines performance as a "formal exhibition of skill or talent as a play, musical program, etc.; a show."¹¹⁴ For the court, it followed that a performance "has connotations of inherent human input that leaves room for spontaneous imperfections during the exhibition of skill or talent."¹¹⁵

The court found that, while they "are designed to give the impression that they are performing," the Chuck E. Cheese robots fell outside the scope of the statute.¹¹⁶ In the court's words:

[A] pre-programmed robot can perform a menial task but, because a pre-programmed robot has no "skill" and therefore leaves no room for spontaneous human flaw in an exhibition, it cannot "perform" a piece of music. . . . Just as a wind-up toy does not perform for

111. See *supra* Part III.

112. Draft on file with author.

113. *Comptroller of the Treasury v. Family Entm't Ctrs.*, 519 A.2d 1337, 1338 (Md. Ct. Spec. App. 1987) (overruled on other grounds).

114. *Id.* at 1339.

115. *Id.*

116. *Id.*

purposes of [the statute,] neither does a pre-programmed mechanical robot.¹¹⁷

The original tax court found it noteworthy that the “cyberamic figures” the restaurant chain purchased had yet to be invented when Maryland passed its performance tax statute.¹¹⁸ Had they existed, the lower court reasoned, surely the legislature would have added them to the list of exceptions, which include “mechanical music, radio, or television, alone.”¹¹⁹ Both the tax and special appeals courts invoked an “embellished jukebox” as the closest analogy to the robots in Chuck E. Cheese.¹²⁰

Resolution of this case, and others like it, does not necessarily require the judge to depart from the mental model evidenced by his or her selection of a metaphor. The Chuck E. Cheese robots are, indeed, pre-programmed machines without the capacity to depart spontaneously from a previously determined set of actions.

In other instances, the robot at issue before the court is not even pre-programmed but rather tele-operated in real time, becoming essentially an extension of the operator. Thus, in the 1989 case *Columbus-America Discovery Group v. The S.S. Central America*, a court had to determine whether the operators of a robot during a salvage operation could be said to “achiev[e] exclusive custody, control and possession” of a shipwreck by virtue of visiting it with a robotic submarine.¹²¹ The court held under the circumstances — dangerous seas and a wreck at great depth — that video recording and manipulating the S.S. America remotely was the functional equivalent of physically visiting it.¹²² The robot was merely an extension of the salvage team,¹²³ just as a corporation is the extension of the individual defendant under the alter ego theory of corporate liability.

Is this mental model of robots sustainable, however, in light of contemporary advances in robotics? Even at the time of *Comptroller of the Treasury v. Family Entertainment Centers*, roboticists at the Stanford Research Institute (SRI) had developed the famous robot “Shakey,” capable of basic autonomous actions such as mapping a room and planning a path around an obstacle.¹²⁴ Robotics has since

117. *Id.*

118. *Family Entm’t Ctrs. of Essex, Inc. v. Comptroller of the Treasury*, 1985 WL 6101, *1 (Md. Tax 1985).

119. *Id.*

120. *Id.* at *2 (noting that “there is not a great deal of difference between these figures and a juke-box”); *Comptroller of the Treasury v. Family Entm’t Ctrs.*, 519 A.2d at 1339.

121. *Columbus-America Discovery Group, Inc. v. The S.S. Central America*, 1989 A.M.C. 1955, 1957–58 (1959).

122. *Id.* at 1958–59.

123. *Id.*

124. For a nice account of Shakey, see JOHN MARKOFF, *MACHINES OF LOVING GRACE: THE QUEST FOR COMMON GROUND BETWEEN HUMANS AND ROBOTS* 1–7 (2015).

moved toward even greater adaptability.¹²⁵ Today's robots "learn" tasks just by watching human demonstrations or even through the robot's own trial and error.¹²⁶ The robotic warehouses of online retail giant Amazon not only use robots to retrieve items, but the robots also dynamically "organize themselves," such that no human necessarily knows where any given item is on the shelf.¹²⁷ The system watches what items tend to be ordered by the same people at the same time in a constant effort to achieve greater efficiency. So, while humans might organize items by type (e.g., a shelf of books far from a shelf of hygiene products), the system might place the first Harry Potter book next to kids' fluoride toothpaste because it detects a correlation in consumer order history.

Contemporary robots are increasingly capable of what I label "emergent behavior" after the discussion in Stephen Johnson's 2001 bestselling book, *Emergence*.¹²⁸ I prefer "emergent" as a descriptor over the more common term "autonomous" because autonomy, to me, connotes an intent to act that is actually absent in robots. Emergent behavior refers to the ability or tendency of a system to behave in complex, unanticipated ways.¹²⁹ This is not to say that the system will take on a will of its own; the Amazon warehouse robots will not, for instance, spontaneously decide to arrange each item by color because the effect is prettier. Nor is it to deny that all robots are at one level "programmed"; all contemporary robotics runs off of firmware and software programming. Rather, the idea is that the system will solve a problem (or create one) in ways the programmers never envisioned.

The ability to act in ways the programmer did not precisely anticipate can be highly advantageous. It means that the system can learn or respond with less human supervision, thereby saving human time and effort, and can even point toward new strategies and approaches no human would envision. For example, the leading player of the ancient game Go, Lee Se-dol, reportedly learned so much playing the artificially intelligent AlphaGo system that he overhauled his Go

125. *Id.*

126. Calo, *supra* note 10, at 539.

127. The tagline of Kiva Systems, prior to its purchase by Amazon in 2012, was: "Where products organize themselves." Ryan Calo, *A Robot Really Committed a Crime: Now What?*, FORBES (Dec. 23, 2014), <http://www.forbes.com/sites/ryancalo/2014/12/23/a-robot-really-committed-a-crime-now-what/#53862b9a1411> (last visited Dec. 14, 2016).

128. See STEVEN JOHNSON, *EMERGENCE: THE CONNECTED LIVES OF ANTS, BRAINS, CITIES, AND SOFTWARE* 18–19 (2001).

129. Calo, *supra* note 10, at 539. Contrast emergent behavior to "nondeterministic" end states. In nondeterministic systems, the same input does not necessarily correlate with the same output. Nevertheless, the range of potential outputs may be predictable. For example, a system that multiplies numeric inputs by a randomly generated number will always yield a number, even if we don't know in advance what the number will be. For an early discussion, see Robert W. Floyd, *Nondeterministic Algorithms*, J. ASS'N COMPUTING MACH., 636, 636–644 (1967). Emergent behavior, in contrast, refers to new behavior that is not only nondeterministic but also genuinely surprising.

strategy and has been even more dominant in the field since.¹³⁰ And, of course, Amazon would not have purchased Kiva Systems for \$775 million dollars in cash were there no value added over human organization and retrieval.¹³¹ There have even been examples of new products — a new toothbrush design,¹³² or a surprising recipe for BBQ sauce¹³³ — credited to artificial intelligence systems.

At the same time, the prospect of emergent — in the sense of unanticipated — behavior in technology can be problematic. Consider the “flash crash” of 2010, wherein the stock market lost twenty percent of its value in twenty minutes.¹³⁴ In that instance, the interaction of multiple high speed trading algorithms, largely harmless in isolation, collectively destabilized the market.¹³⁵ No individual operator of a trading algorithm anticipated, let alone intended, this effect. But the interaction of many algorithms pursuing varied, overlapping, and competitive strategies led to an emergent phenomenon that required shutting down trading and building in counter mechanisms that are still being worked out.¹³⁶

Social media has furnished other examples of behaviors unanticipated by the developers or operators of “bots,” i.e., disembodied robots interacting in a digital environment. In 2015, a system deployed by Google mislabeled a picture of African Americans as gorillas — to its creators’, and Google’s, mortification.¹³⁷ A bot on the social media platform Twitter, designed by Microsoft to engage in seemingly spontaneous conversation through a combination of machine learning and predetermined responses, began to engage in what can only be de-

130. Choe Sang-Hun, *Google’s Computer Program Beats Lee Se-dol in Go Tournament*, N.Y. TIMES (Mar. 12, 2016), <http://www.nytimes.com/2016/03/16/world/asia/korea-alphago-vs-lee-sedol-go.html> (last visited Dec. 14, 2016).

131. See Evelyn M. Rusli, *Amazon.com to Acquire Manufacturer of Robots*, N.Y. TIMES (Mar. 19, 2012), <http://dealbook.nytimes.com/2012/03/19/amazon-com-buys-kiva-systems-for-775-million/> [<https://perma.cc/3TRL-XTWW>].

132. ROBERT PLOTKIN, *THE GENIE IN THE MACHINE: HOW COMPUTER-AUTOMATED INVENTING IS REVOLUTIONIZING LAW AND BUSINESS* 51–52 (2009) (describing the “Creative Machine” that the company Gillette used to redesign its toothbrush).

133. IBM’s Watson, an artificial intelligence engine that beat the top Jeopardy players in an exhibition match, also generates new food recipes; the Bengali Butternut BBQ Sauce is reportedly pretty good. NPR Staff, *IBM’s Watson Is Out with Its Own Barbeque Sauce*, NPR (Jul. 1, 2014), <http://www.npr.org/sections/thesalt/2014/07/01/327204491/ibms-watson-is-out-with-its-own-barbecue-sauce> (last visited Dec. 14, 2016).

134. See Tom C.W. Lin, *The New Investor*, 60 UCLA L. REV. 678, 704–06 (2013).

135. *Id.* at 704–05.

136. *Id.* at 705–06.

137. Alistair Barr, *Google Mistakenly Tags Black People as ‘Gorillas,’ Showing the Limits of Algorithms*, WALL ST. J. (Jul. 1, 2015), <http://blogs.wsj.com/digits/2015/07/01/google-mistakenly-tags-black-people-as-gorillas-showing-limits-of-algorithms/> (last visited Dec. 14, 2016).

scribed as hate speech and had to be discontinued.¹³⁸ Another, less sophisticated chat bot appeared to threaten harm to a local fashion show.¹³⁹ The tweet has since been deleted but was apparently serious enough to lead the Amsterdam police to investigate.¹⁴⁰ Neither the developer nor the operator had any idea, let alone intention, that the bot would behave this way; according to reporting, they were genuinely surprised at what happened.¹⁴¹ Yet the incident demonstrates that where a system is embodied, or has the capacity physically to affect the world, emergent behavior can result in actual bodily harm.¹⁴²

Courts have yet to come into significant contact with emergent systems. When they inevitably do, however, judges will have to shed their current conceptions of technology or else risk making analytic mistakes. Victims are likely to experience emergent behavior by machines as real harm. They will be frightened of an online death threat, for instance, especially if they have no way of knowing whether a real person was behind it. They lose real money when algorithms destabilize the market. But it is not as clear that the law will identify a perpetrator.

Consider two contexts: criminal law and tort law. In criminal law, generally speaking the courts will look for an element of *mens rea* — the intending mind.¹⁴³ Where a robot has been pre-programmed or tele-operated to commit a crime, it is clear that we can reach back to the programmer or operator to affix liability. But where the behavior is truly unanticipated, *mens rea* is missing. Google or Microsoft did not intend the harm their software caused. They would argue they were not reckless in releasing software code that later appeared to engage in hate speech;¹⁴⁴ these companies presumably would not have released the code were they substantially certain of this outcome. And

138. Rob Price, *Microsoft Is Deleting Its AI Chatbot's Incredibly Racist Tweets*, BUSINESS INSIDER (Mar. 24, 2016), <http://www.businessinsider.com/microsoft-deletes-racist-genocidal-tweets-from-ai-chatbot-tay-2016-3> [<http://perma.cc/8QHT-L8WJ>].

139. See Kashmir Hill, *Who Do We Blame When a Robot Threatens to Kill People?*, FUSION (Feb. 15, 2015), <http://fusion.net/story/48656/who-do-we-blame-when-robots-threaten-to-kill-people/> [<https://perma.cc/KH3Z-G56A>].

140. *Id.*

141. *Id.*

142. Calo, *supra* note 10, at 534. See also Ryan Calo, *Open Robotics*, 70 MD. L. REV. 571 (2011) (arguing that physical embodiment will require courts to reexamine tort liability for third party software).

143. There are statutes that dispense with *mens rea* for one or more element of the crime. These tend to be where the stakes are unusually high, such as statutory rape, or unusually low, such as a misdemeanor traffic infraction. Calo, *supra* note 10, at 554.

144. Hate speech can be unlawful in some circumstances. Germany and France, for instance, criminalize denying the Holocaust as a historic fact. See, e.g., Dan Bilefsky, *EU Adopts Measure Outlawing Holocaust Denial*, N.Y. TIMES (Apr. 19, 2007), <http://www.nytimes.com/2007/04/19/world/europe/19iht-eu.4.5359640.html> [<https://perma.cc/9PBQ-YUKZ>].

while Google or Microsoft may have been negligent, courts generally frown on negligence as a criminal law standard, as recently reaffirmed in *Elonis v. United States*.¹⁴⁵

Tort law does not necessarily require intent. It does not even always require negligence. But tort law does require foreseeability. At a minimum, a defendant must foresee the category of harm the plaintiff suffered in order to be held liable. Thus, for instance, in *Foster v. Preston Mill Co.*, the plaintiff mink farm owner alleged that nearby blasting shook the earth, causing her adult minks to eat their young.¹⁴⁶ Even though blasting is an abnormally dangerous activity subject to strict liability, the court found that minks eating their young was not the sort of danger reasonably anticipated from blowing things up, and therefore, the defendant was not liable for the resulting harm.¹⁴⁷

Applied to emergent behavior in robots, courts might be comfortable holding a manufacturer of an autonomous vehicle liable for foreseeable accidents involving, for instance, the failure to stop at a stop sign. The resulting harm, a car crash, is foreseeable should the system make a mistake. But courts may struggle to attach liability to activities outside the usual scope of driving. How would a court react, for example, to a car owner's death by carbon monoxide when his car, programmed to experiment with energy efficiency, started itself up and ran the engine in the garage to recharge the battery? Although such an example is fanciful today, as robots advance in sophistication, analogous incidents are not only possible but also likely.

If the mainstreaming of contemporary robotics leads to puzzles such as how criminal and tort law should treat emergent behavior, then judges will have to revisit a mental model that envisions robots as machines incapable of deviating from their programming.¹⁴⁸ They could, in theory, preserve their current conception of a robot and attempt to find a human in the loop regardless. There have been several cases in the past where, confronted with an apparent error by an autonomous system, the court chose to locate responsibility in a person.¹⁴⁹ For example, in *Ferguson v. Bombardier Services Corp.*, a court avoided the question of whether an autopilot system was responsible for an airplane crash by holding the airline liable on the basis that it improperly loaded the plane in contravention of Federal

145. *Elonis v. United States*, 135 S. Ct. 2001, 2011–13 (2014) (rejecting a negligence standard in a criminal case).

146. *Foster v. Preston Mill Co.*, 268 P.2d 645 (Wash. 1954).

147. *Id.* at 648–49.

148. To be clear, the robots will behave as programmed, but the resulting behavior will not necessarily be under the control of their creator or operator.

149. See David C. Vladeck, *Machines Without Principals: Liability Rules and Artificial Intelligence*, 89 WASH. L. REV. 117, 121–22 n.16, 140 n.78 (2014).

Aviation Administration rules, despite the autopilot being the more obvious cause of the crash.¹⁵⁰

Finding a developer, operator, or other person to blame for every action of a robot could be problematic in several ways. There are obviously reasons why criminal law tends to require intent, one being the sense that the violence of the state should not be brought to bear absent the understanding that the defendant had at least constructive notice of the unlawfulness of his behaviors and undertook them anyway.¹⁵¹ Tort law, in straying from foreseeability, would lose a similar intuition that defendants should only be held accountable if they did know or should have known that they could cause harm — a key limiting principle. A tendency to locate liability in the operators of robots could also incentivize the introduction of a human into the loop in order to absorb liability — what anthropologist M.C. Elish refers to as a “moral crumple zone.”¹⁵²

At a minimum, litigants in cases involving ever more sophisticated robots should be cognizant of the mental models judges may hold of the technology based on the near uniform ways judges have invoked this technology in metaphor. It is not inevitable that a given judge will think of all robot behavior as predetermined: many judges presiding over cases involving robotics probably have not thought much at all about the technology and will be encountering it for the first time. But it would be worth the time in court or the space in a brief for the litigant expressly to contrast what one might think of as a robot years ago with the state of the art today. I have personally argued for a more systematic approach: the government could create a repository of expertise about robotics to assist local and federal officials of all kinds in robotics law and policy.¹⁵³ Such a body could participate in the court system through amicus briefs or by hosting trainings for judges as occurs today around forensic technology and other issues.

This is not a point limited to robotics. I simply use robotics as an illustration. And, as I explored above, the law and technology literature already recognizes how the court’s selection of a metaphor for a

150. *Id.* at 140 n.78 (citing *Ferguson v. Bombardier Servs. Corp.*, 244 F. App’x 944 (11th Cir. 2007)).

151. *Elonis v. United States*, 135 S. Ct. 2001, 2009 (2014).

152. See M.C. Elish, *Moral Crumple Zones: Cautionary Tales in Human-Robot Interaction* (Columbia Univ. and the Data & Soc’y Research Inst. Working Paper, 2016), http://robots.law.miami.edu/2016/wp-content/uploads/2015/07/ELISH_WEROBOT_cautionary-tales_03212016.pdf [<https://perma.cc/V64Z-JETQ>] (exploring the potential that people will be kept in otherwise fully autonomous systems for the sole purpose of absorbing liability).

153. See Calo, *supra* note 52. See also Bruce Schneier, *The Internet of Things Will Be the World’s Biggest Robot*, FORBES (Feb. 2, 2016), <http://www.forbes.com/sites/bruceschneier/2016/02/02/the-internet-of-things-will-be-the-worlds-biggest-robot/#27d41a853162> (last visited Dec. 14, 2016).

new technology can influence legal outcomes. The addition here is that there are technologies, such as robots, that some set of judges have already been thinking about for other reasons — reasons I turn to in more detail in the next Section. How judges deploy a technology in metaphor could come into tension with the actual ways that technology functions in the world.

B. Robots in Justice as Translation

The preceding Section suggests that litigants, commentators, and judges themselves should pay attention to the ways judges invoke robots and other emerging technologies as part of their judicial reasoning, lest there develop a disconnect between the judge's mental model of the technology and the issues the technology raises for litigants on the ground. This Section explains in greater detail what I believe is going on when judges invoke robots: they are trying to explain a legal decision in ways that will resonate with a lay audience.

A good starting point is the work of Boyd White. Responding in part to the cynicism of legal realism, which in its most extreme form counsels that legal opinions are a fig leaf for the political commitments of judges, he argues that the text of a case is important.¹⁵⁴ The convention of the common law is that judges justify their decisions with words. This matters for a few reasons. First, it matters because judges must at least attempt to ground the outcome of a case in precedent and reason.¹⁵⁵ Second, it matters because it gives additional guidance to future litigants and courts.¹⁵⁶

But Boyd White sees a third reason the text matters: judicial opinions, at their best, are fundamentally inclusive. They do not simply describe and apply the law in technical detail such that no layperson could hope to understand. The audience of the judge consists not only of lawyers but also the litigants, and everyone else. Judges should and do engage in a process of translation — they find ways to ground their verdicts in common sense or collective intuitions. The best opinions are ones that simultaneously follow the letter and spirit of the law *and* help the reader appreciate the sense and justice of doing so in this context.¹⁵⁷

It happens that a central example for Boyd White involves technological analogy. In a chapter on the electronic eavesdropping case, *United States v. White*,¹⁵⁸ he contrasts the authoritative and technical majority opinion of Justice White, upholding the use of a radio trans-

154. BOYD WHITE, *supra* note 9, at 94–97.

155. *Id.* at 95–96.

156. *Id.*

157. *Id.* at 263.

158. 401 U.S. 745 (1971).

mitter to listen in on a defendant's conversation with an informant, with the more colorful, journalistic dissent of Justice Douglas.¹⁵⁹ For Justice Douglas, equating regular and electronic surveillance "is to treat man's first gunpowder on the same level as the nuclear bomb."¹⁶⁰ According to Boyd White, Justice Douglas is equally interested in explaining and even dramatizing the issues at stake for American citizens as he is in respecting precedent.¹⁶¹

It is not hard to see why robots would also be useful to a judge in the process of translating justice. Robots have what some rhetoric scholars refer to as a "polysemous" quality.¹⁶² Robots admit of multiple, simultaneous meanings, which in turn permit judges to engage in a certain "strategic ambiguity."¹⁶³ Robots are thought to be both alive and not, animate and inanimate. Psychological studies find that subjects have difficulty characterizing robots as either objects or life forms, leading some researchers to believe an entirely new ontological category may be required.¹⁶⁴ By labeling a litigant a robot, or referring to litigant behavior as robotic, the judge can simultaneously acknowledge that the litigant before the court is a person while introducing the prospect that she is not responsible for her actions.

The polysemy of robots seems to be at play, for instance, in explaining how it is that the defendant in *Frye v. Baskin* — the case of the father's crashed car — might simultaneously be the driver of the vehicle but not responsible for its destruction.¹⁶⁵ It helps explain how a company apparently involved in a Ponzi scheme is not only absolved of liability in the scheme but can itself sue the scheme's architect.¹⁶⁶ And it helps explain how plaintiffs with the means to leave a religious organization at any time can nevertheless proceed with a fraudulent inducement claim once they have been "deprogramme[d]" — or, alternatively, why they should not be able to proceed.¹⁶⁷

159. BOYD WHITE, *supra* note 9, at 165.

160. *White*, 401 U.S. at 756 (Douglas, J., dissenting).

161. BOYD WHITE, *supra* note 9, at 165.

162. *See* Ceccarelli, *supra* note 7, at 395.

163. Strategic ambiguity is a form of polysemy wherein the author purposefully selects a concept with a dual meaning so as to placate ideologically disparate audiences. *Id.* at 404–07. I use it here to capture the idea of a single term — robot — that simultaneously signifies two disparate concepts, person and machine.

164. Peter H. Kahn, Jr. et al., *The New Ontological Category Hypothesis in Human-Robot Interaction*, in PROC. 6TH INT'L CON. ON HUMAN-ROBOT INTERACTION 159–60 (2011) (collecting studies).

165. *See* *Frye v. Baskin*, 231 S.W. 2d 630, 634–36 (Mo. App. 1950); *see also supra* Section III.C.

166. *See* *Scholes v. Lehmann*, 56 F.3d 750, 753–55 (7th Cir. 1995); *see also supra* Section III.C; *Janvey v. Democratic Senatorial Campaign Comm., Inc.*, 712 F.3d 185, 190–92 (5th Cir. 2013).

167. *See* *Molko v. Holy Spirit Ass'n*, 762 P.2d 46 (1988); *see also supra* Section III.C.

Alternatively, a judge can create through her invocation of the robot an odious foil — an entity with all the trappings of a person but lacking emotion or free will. The “ideal reader” (to borrow another term from Boyd White) should appreciate how objectionable it would be to so reduce a judge or jury.¹⁶⁸ Thus, by claiming that a trial court is not the robot of the appellate court that overrules it, the judge appeals to our shared revulsion to the removal of agency and discretion from an official whom we praise for sound judgment. And rejecting the idea that a jury or judge must be a robot in court reminds us that the legal process does not somehow strip participants of their humanity, experience, or even frailty.

In sum, to the extent that the American judge’s task is to translate legal concepts into terms acceptable to an American citizen, robots can be a useful rhetorical device. The concept of an entity that is simultaneously person- and machine-like is useful where a judge hopes to justify the preservation or suspension of agency. Under this view, the role of the robot is justice enhancing because it meets the citizen reader on his or her terms by appealing to a popular theme over dry, technical, and inaccessible legalisms to explain the court’s decision.

C. The Robot Metaphor and Critical Perspectives

I am in general agreement with Boyd White that generously written legal opinions enhance justice by translating law into terms accessible to an informed citizenry. Technological metaphors clearly play an important part here, as the preceding discussion of Justice Douglas’s dissent in *White* shows. But the fact that justice involves a process of translation does not absolve legal commentators of the obligation to engage critically in judges’ selection of metaphors in particular contexts. In this Section, I analyze one individual and one serial use of the robot metaphor that seem problematic from the perspective of gender and national origin. The first example involves the denial of agency to a woman in the 1950s by referring to her as the “robot” of a male party not before the court. The second involves the discounting of testimony by immigrants as “robotic.”

Consider again the case of *Frye v. Baskin*, involving the young woman driving her date’s father’s Ford.¹⁶⁹ The defendant undertook to drive the car and actually depressed the pedals and steered the wheel.¹⁷⁰ She did so without knowledge of how to drive and her lack

168. See BOYD WHITE, *supra* note 9, at 100–01. The “Ideal Reader” of a text is “the version of himself or herself that it asks each of its readers to become.” *Id.* at 100.

169. See *Frye v. Baskin*, 231 S.W.2d 630 (Mo. Ct. App. 1950); see also *supra* Section III.C.

170. *Id.* at 632–33.

of knowledge resulted in damage to the car.¹⁷¹ Ordinary principles of tort law would hold her negligent. Her date was likely negligent as well: he permitted a person without a license to operate a car in his custody. He also gave poor instructions to that person. The court could have easily found both the defendant and her date liable under joint and several liability or comparative negligence.¹⁷² Instead, the court transferred liability entirely from the defendant to her date — “if it [was] negligence, it was John’s and not hers.”¹⁷³

At one level, of course, this case was quite beneficial to the defendant; she was not required to pay for damages to the vehicle. But at another level, the story the judge tells and the language he uses challenges the defendant’s basic autonomy. It seems implausible that a judge, writing in the 1950s, would have used the same language (or come to the same conclusion) about a young man driving a car without a license. The court of this time would be unlikely to write of a young man that he was “completely under the control, tutelage, and domination” of his female date.¹⁷⁴ Rather, the idea of a woman lacking agency — and hence being the “robot or automaton” of a man she is with — seems plausible to this judge in a way readers today would find suspect.¹⁷⁵

The idea that gendered metaphors reveal bias is not new. Professor Jeannie Suk argues, for instance, that the court’s selection of a woman in metaphors about privacy is revealing of judges’ attitudes toward gender.¹⁷⁶ She points, for instance, to the late Justice Scalia’s reference to how thermal imaging permits the police to know “at what hour each night the lady of the house takes her daily sauna” in the Fourth Amendment case *Kyllo v. United States*.¹⁷⁷ Suk uses this and other allusions to women’s bodies in privacy case law to illustrate how legal conceptions of privacy reinforce a particular, traditional, gendered narrative.¹⁷⁸ Here, this essay makes a related but inverse point: the willingness to invoke a robot — an object that looks and acts like a person but lacks real agency — to describe a woman is also revealing of judicial attitudes toward women, at least in the 1950s.

Frye v. Baskin represents a specific instance of a judge choosing an arguably unfortunate metaphor given the underlying gender dy-

171. *Id.* at 635.

172. Missouri has not dispensed with joint and several liability and has also adopted a comprehensive system of comparative fault in tort cases. Mo. Rev. Stat. § 537.067 (2015); *Gustafson v. Benda*, 661 S.W.2d 11, 13–16 (Mo. 1983) (en banc); see also 34 ROBERT H. DIERKER & RICHARD J. MEHAN, PERSONAL INJURY AND TORTS HANDBOOK § 3:6(4)(a) (2016 ed.).

173. *Frye*, 231 S.W.2d at 636; see also *supra* Section III.C.

174. *Frye*, 231 S.W.2d at 635.

175. *Id.*

176. See Jeannie Suk, *Is Privacy A Woman?*, 97 GEO. L. REV. 486, 506 (2009).

177. *Id.* at 488 (quoting *Kyllo v. United States*, 533 U.S. 27, 38 (2001)).

178. See *id. passim*.

namic. The next example involves the string of cases, discussed above in Section II.B, wherein a court dismissed the testimony of a witness or litigant because it was deemed “robotic.”¹⁷⁹ In these cases, a lower court judge questioned the reliability and credibility of testimony because it struck the judge as oddly robotic. At first blush, this appears a neutral enough precedent: courts expect truthful testimony to have a spontaneous feel and might rightfully be suspicious of an overly scripted account.

It is hard to overlook, however, that virtually the only context in which the principle arises that robotic testimony should be discounted has been immigration.¹⁸⁰ These are primarily foreign litigants hoping to gain asylum in the United States. English is presumably not their first language, and their backgrounds often differ remarkably from those of the judge. At a practical level, what the judge experiences as “robotic” testimony could be the product of any number of things aside from untrustworthiness. For example, the litigant could be having trouble expressing him or herself alone or through an interpreter. He or she may have no context for the norms of an American court. And so on. But at the level of rhetoric, it seems straightforwardly dehumanizing to analogize an immigrant to a robot. Like women in the 1950s, there is a danger in judges perceiving immigrants as falling somewhere short of full autonomy.¹⁸¹

The use of robot as a metaphor is not inherently racist or sexist. For each of the above examples one might cite to another — such as the cases involving the imputation of knowledge to a corporation under the robotic control of a Ponzi scheme architect — that have seemingly nothing to do with demography. And Judge Higginbotham deployed the robot metaphor to argue that the beliefs and experiences of black judges should not disqualify them from deciding cases with diverse parties.¹⁸² But there is also a danger in invoking a concept like the robot. The robot is precisely useful as a mechanism of justice as translation because it bridges the human and the object and thereby helps to explain a certain kind of decision. Judges and others should be especially sensitive employing this metaphor to refer to individuals or groups whom society may already have marginalized, and we should look critically at the reasoning behind decisions that do so.

179. See *supra* notes 79–84 and accompanying text.

180. I did come across one case in which a defendant sought to unravel a guilty plea that he says he delivered “like a robot.” *United States v. Osei*, 679 F.3d 742, 745 (8th Cir. 2012).

181. For an example of a litigant equating the label “robot” with discrimination against immigrants, see Complaint at 5, *Wei v. Bristol-Myers Squibb Co.*, CIV 537845 (Cal. Super. Ct. Mar. 21, 2016) (alleging that manager evinced discriminatory intent through his use of simile: “You have been here for ten years, working like a robot. You do not pay attention and do not know what you are doing.”).

182. See *Pennsylvania v. Local Union 542, Int. Union of Operating Eng’rs*, 388 F.Supp. 155, 178 (E.D. Pa. 1974).

V. CONCLUSION

This Article has made several claims. The first is that the law and technology literature examining the role of metaphor to date focuses almost exclusively on how the judge's selection of a metaphor or analogy for a new technology can determine legal outcomes. This is an interesting and important area but does not necessarily exhaust the role of metaphor in technology law. Scholars can and should investigate the inverse phenomenon as well: how judges deploy technologies rhetorically to address existing legal questions. I selected the metaphor of the robot as an object of study for its conceptual richness and because of the differences and similarities between the areas in which the metaphor arises. Judges invoke robots in contexts as varied as tort liability, labor disputes, and asylum hearings, but always either as a foil, to claim greater latitude to interpret the law, or as a polysemy, to explain why an apparently culpable defendant must be absolved of responsibility.

The second claim is that, as a practical matter, the consistent conceptualization of robots as people without discretion may indicate that judges hold an outdated mental model of an increasingly important technology. Arguably what differentiates a robot from previous and constituent technologies is the robot's ability to process, plan, and act on its own. Ultimately, judges and their audiences will need to grapple with the increasing capability of robots to exercise discretion and act in unpredictable ways, updating both the ways judges invoke robots in judicial reasoning and the common law that attends legal conflicts involving real robots.

The third and final claim is that there is reason to apply a critical lens to judges' use of the robot metaphor. At a theoretical level, the use of a robot metaphor may be justice enhancing in that it eschews legalistic concepts in favor of accessible themes. But it can also be problematic: without necessarily being conscious of the move, judges sometimes invoke robots to deny agency to litigants who are marginalized. They invite the reader to see an other as a person, but without the hallmarks of personhood.