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Functional Corporate Knowledge

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FUNCTIONAL CORPORATE KNOWLEDGE

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ABSTRACT

The line between guilt and innocence often turns on what a defendant knew. Although the law's approach to knowledge may be relatively straightforward for individuals, its doctrines for corporate defendants are fraught with ambiguity and opportunities for gamesmanship. Corporations can spread information thinly across employees so that it is never "known." And prosecutors can exploit legal uncertainties to bring knowledge-based charges where corporations

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were merely negligent in how they handled information. Whereas knowledge as a mens rea has unique practical and normative properties that vary with a corporation's size and industry, corporate law treats knowledge just like any other mental state and uses the same doctrine for all corporations. Commentators dissatisfied with that doctrine have overlooked an obvious resource: social epistemology (the formal study of group knowledge states). As a result, commentators have missed a crucial distinction—between knowledge and information—at the root of ambiguities and inefficiencies in the law and proposed reforms.

This Article is the first to draw on the tools of social epistemology and organizational science to develop a functional theory of corporate knowledge. Its goal is to validate the legislature's frequent choice of knowledge as a mens rea while also inducing corporations of all sorts to process information at socially optimal levels. The incentives corporations have to (mis)manage information, the public cost of corporate crime, and the private cost of corporate compliance are critical to the analysis. A functional approach to corporate knowledge would eschew the binaries of current doctrine in favor of a sliding test responsive to two factors: (1) "effort," or the cost of information management, and (2) "obviousness," or how peer corporations would perform with respect to the same information. The resulting theory is flexible enough to fine-tune incentives for corporations of all sizes and industries while also intuitively capturing what culpable knowledge means in the corporate context.

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INTRODUCTION

Suppose I hand you \$1.61, \$2.37, and \$0.96. Do you have at least five dollars? If you are like most people, you do not yet know. With pen, paper, and a few seconds, you could add the numbers and find that you have only \$4.94. You had the *information* you needed but did not at first *know* the answer.

Corporate law has yet to grapple with this intuitive distinction between information and knowledge. The incentives corporations have to implement the information-gathering compliance mechanisms they need to prevent misconduct turn on this distinction. So does the difference between a justly punished corporation and a casualty of prosecutorial or regulatory overreaching. As argued below, current doctrines either treat no information within the corporate structure as knowledge or risk treating it all as knowledge. Neither extreme serves the interests of corporate law or justice.

Knowledge plays an important role in corporate liability.¹ For simplicity, this Article focuses on criminal liability, though its arguments carry over with some modest modification to civil and regulatory contexts. Many of the most common white-collar crimes—things such as false claims,² mail and wire fraud,³ securities fraud,⁴

1. Though this Article focuses on the mens rea “knowledge,” it also has important implications for “recklessness,” which is defined as unjustifiably disregarding a *known* substantial risk. See MODEL PENAL CODE § 2.02(2)(c) (AM. LAW INST. 1985) (defining recklessness in terms of disregarding a known risk); see, e.g., State v. Zeta Chi Fraternity, 696 A.2d 530, 535 (N.H. 1997).

2. See 18 U.S.C. § 287 (2012) (criminalizing *knowingly* presenting a false claim to the government).

3. See *id.* § 1341 (criminalizing use of the mail system in furtherance of a scheme to defraud); *id.* § 1343 (criminalizing use of a wire transmission in furtherance of a scheme to defraud); United States v. Lothian, 976 F.2d 1257, 1262 (9th Cir. 1992) (interpreting “scheme to defraud” to require knowledge that a representation is false or misleading).

4. See 15 U.S.C. § 78j(b) (2012) (criminalizing use of “manipulative or deceptive device[s]” in the purchase or sale of a security); Tellabs, Inc. v. Makor Issues & Rights, Ltd., 551 U.S. 308, 319 (2007) (“To establish liability under § 10(b) and Rule 10b-5, a private plaintiff must prove that the defendant acted with scienter.” (citing Ernst & Ernst v. Hochfelder, 425 U.S. 185, 193-94, n.12 (1976))); 17 C.F.R. § 240.10b-5(a) (2018) (criminalizing use of “any device, scheme, or artifice to defraud” in the purchase or sale of a security).

money laundering,⁵ and tax fraud⁶—require that the defendant acted knowingly. If corporate employees commit the proscribed acts with the relevant knowledge, that can spell trouble for them in their individual capacities.⁷ Prosecutors wanted to find out which individuals knew about General Motor’s faulty ignition switches⁸ or Volkswagen’s cheat devices⁹ in order to bring those individuals to justice. But more than individual liability is at stake. Under long-established law,¹⁰ the acts and knowledge of employees are the acts and knowledge of their corporate employers.¹¹ Corporations can be liable for the same crimes as

5. See 18 U.S.C. § 1957(a) (criminalizing transactions in property the defendant *knew* was derived from unlawful activity).

6. See 26 U.S.C. § 7201 (2012) (“Any person who willfully attempts in any manner to evade or defeat any tax imposed by this title or the payment thereof shall ... be guilty of a felony.”); *Cheek v. United States*, 498 U.S. 192, 200-01 (1991) (interpreting “willfully” in tax fraud statute to require knowledge of tax provisions alleged to have been violated).

7. See, e.g., Hiroko Tabuchi et al., *6 Volkswagen Executives Charged as Company Pleads Guilty in Emissions Case*, N.Y. TIMES (Jan. 11, 2017), <https://www.nytimes.com/2017/01/11/business/volkswagen-diesel-vw-settlement-charges-criminal.html> [<https://perma.cc/YDE5-PGSV>] (discussing the arrest of “[c]ompany executives [who] knew that the cars were programmed to recognize when they were being tested and to deliver optimum pollution readings, according to investigators. But rather than admit wrongdoing, Volkswagen representatives provided false and misleading information for more than a year to the California Air Resources Board and the Environmental Protection Agency”).

8. See Nathan Bomey & Kevin McCoy, *GM Agrees to \$900M Criminal Settlement over Ignition-Switch Defect*, USA TODAY (Sept. 17, 2015, 6:37 PM), <https://www.usatoday.com/story/money/cars/2015/09/17/gm-justice-department-ignition-switch-defect-settlement/32545959> [<https://perma.cc/6Y8F-J4GR>] (“‘We’re not done, and it remains possible we will charge an individual,’ [U.S. Attorney Preet] Bharara said at a news conference in New York. ‘If there is a way to bring a case like that, we will bring it.’”).

9. See Tabuchi et al., *supra* note 7 (“The Volkswagen case is also the first major test of a Justice Department commitment to hold executives more accountable, even as the agency braces for big changes in its top ranks under President-elect Donald J. Trump.”).

10. See *N.Y. Cent. & Hudson River R.R. v. United States*, 212 U.S. 481, 495 (1909) (“[There is] no valid objection in law, and every reason in public policy, why the corporation ... shall be held punishable by fine because of the knowledge and intent of its agents to whom it has intrusted authority to act.”).

11. See Mihailis E. Diamantis, *Corporate Criminal Minds*, 91 NOTRE DAME L. REV. 2049, 2053-58 (2016) (discussing the unprincipled introduction and evolution of respondeat superior in corporate criminal law).

individuals.¹² The prosecutors investigating individuals at General Motors and Volkswagen were also after the companies themselves.¹³

The stakes for getting knowledge right in corporate criminal law are high. On the one hand, an overly restrictive definition will make it harder to prosecute corporate misconduct.¹⁴ Some estimates already put the annual costs associated with white-collar crime in the United States at around half a trillion dollars¹⁵ (just shy of Sweden's GDP),¹⁶ which is twenty times the total economic costs associated with every other sort of crime in the United States.¹⁷ On the other hand, an overly permissive definition of corporate knowledge risks choking the corporate engines of our economy¹⁸ and discouraging corporations from taking advantage of socially beneficial economic opportunities.¹⁹ In addition, under a broad definition of

12. Criminal statutes tend to make it illegal for "people" to engage in specified behavior. See 18 U.S.C. § 922(a) (2012) ("It shall be unlawful ... for any person ... except a licensed importer ... to ship, transport, or receive any ammunition in interstate or foreign commerce."); 21 U.S.C. § 841(a) (2012) ("[I]t shall be unlawful for any person knowingly or intentionally ... to manufacture, distribute, or dispense, or possess with intent to manufacture, distribute, or dispense, a controlled substance."). The law then defines "person" to include corporations. See 1 U.S.C. § 1 (2012).

13. See Bomey & McCoy, *supra* note 8 ("General Motors agreed to pay \$900 million as part of a Justice Department investigation into its failure to fix a deadly ignition-switch defect blamed for more than 120 deaths.").

14. See *infra* Part II.A.

15. See RODNEY HUFF ET AL., THE 2010 NATIONAL PUBLIC SURVEY ON WHITE COLLAR CRIME 12 (2010), <http://www.nw3c.org/docs/publications/2010-national-survey-on-white-collar-crime.pdf> [<https://perma.cc/2G4U-9QS7>].

16. See CIA, *Sweden*, THE WORLD FACTBOOK <https://www.cia.gov/library/publications/resources/the-world-factbook/geos/sw.html> [<https://perma.cc/TDG2-HCDG>].

17. Murder, the most costly offense category other than white-collar crime, costs the United States \$8,982,907 in 2008 (in 2008 dollars). See Kathryn E. McCollister et al., *The Cost of Crime to Society: New Crime-Specific Estimates for Policy and Program Evaluation*, 108 DRUG & ALCOHOL DEPENDENCE 98, 100 (2010).

18. See William S. Laufer, *A Very Special Regulatory Milestone*, 20 U. PA. J. BUS. L. 392, 423 (2017) ("Abolitionists of corporate criminal liability have for years bemoaned the immense costs to innocents and significant externalities of criminal investigations, indictments, prosecutions, and convictions against corporations."); U.S. DEP'T OF JUSTICE, JUSTICE MANUAL § 9-28.1100 (2019), <https://www.justice.gov/jm/jm-9-28000-principles-federal-prosecution-business-organizations#9-28.1100> [<https://perma.cc/3L5Y-NAKN>] (allowing prosecutors to factor in the cost to society of a corporate prosecution when deciding whether to charge the corporation).

19. See David M. Uhlmann, *The Pendulum Swings: Reconsidering Corporate Criminal Prosecution*, 49 U.C. DAVIS L. REV. 1235, 1254-55 (2016) (arguing that fear of reputational harm resulting from a possible criminal conviction leads to an inefficient allocation of resources).

corporate knowledge, corporations would likely make wasteful investments in excessive compliance.²⁰ Corporate compliance costs already rival total municipal policing costs.²¹ JPMorgan alone has three times more compliance officers than the FBI has agents.²²

Corporations worried about criminal liability have a Janus-faced stake in knowledge. From one perspective, knowledge can be power and security.²³ Regular audits of employee performance can help corporations streamline operations, increase efficiencies, and boost profitability.²⁴ Audits also generate information critical for designing and implementing programs to prevent employees—and hence their corporate employers—from committing crimes and incurring criminal liabilities.²⁵ From another perspective, knowledge can be a great vulnerability. The line between criminal and innocent

20. See Hui Chen & Eugene Soltes, *Why Compliance Programs Fail—and How to Fix Them*, 96 HARV. BUS. REV. 116, 118-19 (2018) (“Many executives are rightly frustrated about paying immense and growing compliance costs without seeing clear benefits. And yet they continue to invest—not because they think it’s necessarily productive but because they fear exposing their organizations to greater liability should they fail to spend enough.... The DOJ recognized that firms might be spending a lot and creating all the components of compliance programs but actually producing hollow facades.”).

21. See Laufer, *supra* note 18, at 399.

22. See *id.* at 393-94.

23. See, e.g., Chen & Soltes, *supra* note 20, at 119 (explaining the potential benefits of internal compliance programs that promote self-regulation and reporting).

24. Monitoring employees to improve productivity is becoming commonplace as consultants develop monitoring tools. See Katie Johnston, *Firms Step Up Employee Monitoring at Work*, BOS. GLOBE (Feb. 18, 2016, 8:04 PM), <https://www.bostonglobe.com/business/2016/02/18/firms-step-monitoring-employee-activities-work/2r5hoCjsEZWA0bp10BzPrN/story.html> [<https://perma.cc/4DBN-Z5JQ>] (“Sapience Analytics, a workforce data firm in California and India, introduced a product last year that displays employees’ activities in a window visible to workers as well as bosses. One client that used the product, an IT services company with more than 5,000 employees, reported a 90-minute daily increase per person in ‘core activities’—coding for a developer as opposed to answering e-mails—after being made aware of their work patterns, said spokesman Khiv Singh.... The company reported a \$2 million annual profit increase.”); Tom Pfeiffer, *Performance Audit, Monitoring & Evaluation: Economy, Efficiency & Effectiveness*, DELOITTE, <https://www2.deloitte.com/lu/en/pages/audit/solutions/performance-audit.html> [<https://perma.cc/6972-KHDJ>] (“The aim of a performance audit is to provide recommendations about where and how improvement can be made and to identify the likely impact they may have.”).

25. See, e.g., Bradley J. McAllister, *The Impact of the Dodd-Frank Whistleblower Provisions on FCPA Enforcement and Modern Corporate Compliance Programs*, 14 BERKELEY BUS. L.J. 45, 49 (2017) (explaining that, by requiring “strong internal audit procedures and enhanced internal investigation capabilities,” the Sarbanes-Oxley Act “encourage[s] a culture of compliance” and aims to reduce criminal misconduct).

conduct frequently turns on what defendants knew.²⁶ As a result, monitoring employees can sometimes make corporations worse off.²⁷ The same internal corporate compliance and audit programs that gather information that is crucial to help corporations prevent crime can also produce knowledge that converts otherwise permissible corporate conduct into crime.²⁸

Whereas corporations have an ambivalent relationship with knowledge, the criminal justice system's interest in corporate knowledge is one-sided: the more corporations know, the better off the criminal justice system tends to be. Congress,²⁹ prosecutors,³⁰ and judges³¹ are all committed to reforming corporations and promoting effective corporate compliance programs. A large part of what this means is ensuring that corporations have adequate procedures for generating and transmitting information through appropriate channels to personnel who can respond when problems are uncovered.³² The more corporations know about themselves, the

26. See *supra* notes 7-11 and accompanying text.

27. See Jennifer Arlen, *The Failure of the Organizational Sentencing Guidelines*, 66 U. MIAMI L. REV. 321, 325 (2012) (“[T]he Organizational Guidelines do not provide firms with sufficient mitigation to ensure that firms face lower expected sanctions if they undertake effective corporate policing when corporate policing substantially increases the probability that the government can detect and sanction the wrong.”).

28. See generally Mihailis E. Diamantis, *Successor Identity*, 36 YALE J. REG. 1, 17-18 (2019) (explaining that successor liability disincentivizes the investigation and reporting of misconduct).

29. See McAllister, *supra* note 25, at 45, 48-49 (discussing the compliance program requirements that the Foreign Corrupt Practices Act of 1977 and the Sarbanes-Oxley Act of 2002 place on publicly traded companies).

30. The deferred prosecution agreements and non-prosecution agreements that prosecutors sign with corporations suspected of criminal misconduct routinely require corporations to undergo programs of reform. See Anthony S. Barkow & Rachel E. Barkow, *Introduction to PROSECUTORS IN THE BOARDROOM: USING CRIMINAL LAW TO REGULATE CORPORATE CONDUCT* 3 (Anthony S. Barkow & Rachel E. Barkow eds., 2011) [hereinafter *PROSECUTORS IN THE BOARDROOM*] (using deferred prosecution agreements, “prosecutors impose affirmative obligations on companies to change personnel, revamp their business practices, and adopt new models of corporate governance”).

31. See U.S. SENTENCING GUIDELINES MANUAL § 8B2.1(a) (U.S. SENTENCING COMM’N 2018) (“Such compliance and ethics program shall be reasonably designed, implemented, and enforced so that the program is generally effective in preventing and detecting criminal conduct.”). See generally Mihailis E. Diamantis, *Clockwork Corporations: A Character Theory of Corporate Punishment*, 103 IOWA L. REV. 507, 559-62 (2018) (discussing the benefits of judge-led reform).

32. See *Deferred Prosecution Agreement at C-3, United States v. HSBC Holdings PLC*, No. 18-CR-00030 (E.D.N.Y. Jan. 18, 2018) (requiring company to “enhance the compliance

better able they are to anticipate and prevent misconduct. Should something still go awry, as it inevitably will,³³ corporate knowledge is crucial to ensuring accountability. Prosecutors are in a better position to bring charges against corporations that acted knowingly.

In light of the criminal justice system's strong interests in corporate knowledge, and corporations' mixed incentives to know things, we might expect criminal law to have nuanced doctrines about corporate knowledge. It does not.³⁴ Most circuits³⁵ simply apply the centuries-old, mechanistic doctrine familiar from civil law³⁶—*respondeat superior*—and thereby treat corporate knowledge just like any other corporate mental state.³⁷ That doctrine allows prosecutors to attribute *mens rea* from employees to their corporate employers but requires prosecutors to find one single employee with all the knowledge needed for conviction.³⁸ Whatever merits *respondeat superior* has with respect to some mental states,³⁹ it

reporting process ... [and] other reporting systems, through which employees report known or suspected violations of the Company's ... policies and U.S. laws and regulations, and that includes a process designed to ensure that known or suspected violations are promptly escalated to appropriate personnel for appropriate resolution and reporting"); U.S. SENTENCING GUIDELINES MANUAL § 8B2.1(b)(2)(C) (U.S. SENTENCING COMM'N 2018) ("Specific individual(s) within the organization shall be delegated day-to-day operational responsibility for the compliance and ethics program. Individual(s) with operational responsibility shall report periodically to high-level personnel.").

33. See Charles J. Walsh & Alissa Pyrich, *Corporate Compliance Programs as a Defense to Criminal Liability: Can a Corporation Save Its Soul?*, 47 RUTGERS L. REV. 605, 644 (1995) (observing that even through robust compliance programs, corporations cannot have complete control over their employees).

34. See Diamantis, *supra* note 11, at 2050 ("[C]ourts have no real theory of how corporations ... could instantiate [an actus reus or a mens rea].").

35. See Thomas A. Hagemann & Joseph Grinstein, *The Mythology of Aggregate Corporate Knowledge: A Deconstruction*, 65 GEO. WASH. L. REV. 210, 227 (1997) ("[O]nly a few courts addressing criminal or civil issues have alluded to the collective knowledge rule." (footnotes omitted)).

36. See, e.g., *Phila. & Reading R.R. v. Derby*, 55 U.S. (14 How.) 468, 486-87 (1852).

37. See Diamantis, *supra* note 11, at 2050.

38. See Patricia S. Abril & Ann Morales Olazábal, *The Locus of Corporate Scierter*, 2006 COLUM. BUS. L. REV. 81, 113 ("[W]here the case against a single actor within an organization does not contain all of the requisite elements of the crime, *respondeat superior* liability would not attach to the corporation."); George R. Skupski, *The Senior Management Mens Rea: Another Stab at a Workable Integration of Organizational Culpability into Corporate Criminal Liability*, 62 CASE W. RES. L. REV. 263, 282 (2011) ("[T]he traditional *respondeat superior* theory requiring the prosecution to establish the requisite mental state in at least one individual agent.").

39. See Albert W. Alschuler, *Two Ways to Think About the Punishment of Corporations*,

performs poorly when it comes to others—such as knowledge—that can be dispersed over many people.⁴⁰ Corporations can manipulate such a mental state by partitioning it across employees so that no one employee has it in its entirety. Today’s corporate behemoths, characterized by complex operations that require a diffusion of responsibility and authority, do not even have to *try* to spread knowledge thinly.⁴¹ If anything, they must fight the entropic dispersion of information that is a natural product of large-scale operations.⁴² Despite these conflicting incentives, respondeat superior decidedly pushes corporations away from allowing employees to acquire too much knowledge. The more individual employees know, the more likely it is that the corporation can be prosecuted when bad things happen.

Some jurisdictions have supplemented respondeat superior with the collective knowledge doctrine. This ham-handed approach frees prosecutors from the need to find one employee with all of the culpable knowledge by allowing them to aggregate the knowledge of all corporate employees for attribution to the corporation.⁴³ In so doing, the collective knowledge doctrine flips corporate incentives concerning knowledge on their head. If corporations are on the hook for every scrap of information known by every employee, they must have mechanisms to gather and process it all. While this may be a win for prosecutors—because corporations are more likely to have inculcating knowledge when they misbehave—these mechanisms

46 AM. CRIM. L. REV. 1359, 1376 n.102 (2009) (“[R]espondeat superior in criminal cases seeks to promote the efficient monitoring of employees by holding firms *strictly* (and jointly) liable for the employees’ *intentionally* produced harms.”).

40. Another dispersible mental state is negligence. *See, e.g.*, *R. v. Her Majesty’s Coroner for E. Kent*, (1987) 88 Cr. App. R. 10 QB at 16 (Eng.) (acquitting corporate ferry operator of manslaughter because the negligence that led one of its ships to capsize was spread thinly across many employees). Scholars have criticized respondeat superior as it applies to negligence, too. *See, e.g.*, Albert Ehrenzweig, *Negligence Without Fault*, 54 CALIF. L. REV. 1422, 1433 (1966).

41. *See* Kathleen F. Brickey, *Model Penal Code Conference Transcript—Discussion Two*, 19 RUTGERS L.J. 635, 635 (1988) (“[I]t’s going to be impossible in many instances to find a single culpable individual.”).

42. Despite expensive spending on information management technology, in 2002, Fortune 500 companies lost an estimated \$31.5 billion due to failure to share knowledge. *See* Pamela Babcock, *Shedding Light on Knowledge Management*, HR MAG. (May 1, 2004), <https://www.shrm.org/hr-today/news/hr-magazine/Pages/0504covstory.aspx> [<https://perma.cc/F75J-XYMQ>].

43. *See, e.g.*, *United States v. Bank of New Eng.*, 821 F.2d 844, 856 (1st Cir. 1987).

come at a great cost. As one court put it, “[T]he imputation of every bit of knowledge known to each individual employee—from the Chief Executive Officer to the most recently hired recruit—would likely paralyze a corporation.”⁴⁴ The marginal social costs for corporations to collect and process increasing quantities of information must eventually exceed the marginal social benefits from crime prevention.⁴⁵ We may approach that point soon, if we have not already in some industries, and social waste lies beyond it.⁴⁶

The heart of the problem is the law’s failure to recognize and grapple with the distinction between knowledge and information. Under respondeat superior, corporations have a strong incentive to turn knowledge into mere information dispersed through the corporation and to prevent dispersed information from becoming centralized knowledge.⁴⁷ Under the collective knowledge doctrine, corporations have strong incentives to implement inefficiently complex compliance systems that convert all information into knowledge by centralizing and processing it.⁴⁸ On the doctrinal line between knowledge and mere information rests the incentives criminal law gives corporations to scale their audit and compliance programs up or down. If the law draws the line under- or overinclusively, it will under- or over-incentivize corporations to collect and process information. Without a considered approach, criminal law is missing an opportunity to fine-tune the incentives corporations have to balance risk, compliance, and cost.⁴⁹

More than incentive setting hangs in the balance. The criminal justice system is also a system of justice. Corporations must face the

44. *In re Tex. E. Transmission Corp. PCB Contamination Ins. Coverage Litig.*, 870 F. Supp. 1293, 1307 (E.D. Pa. 1992), *aff’d*, 15 F.3d 1249 (3d Cir. 1994).

45. *See Laufer*, *supra* note 18, at 409.

46. *See id.* at 392.

47. *See infra* text accompanying notes 128-30.

48. *See infra* text accompanying notes 180-81.

49. Scholars are becoming increasingly attuned to the interconnections between corporate law and corporate criminal law. *See, e.g.*, William Robert Thomas, *The Ability and Responsibility of Corporate Law to Improve Criminal Fines*, 78 OHIO ST. L. J. 601, 601 (2017).

punishment they deserve, and the rule of law⁵⁰ and due process⁵¹ demand that they do so on terms antecedently set in statute by the legislature. To convict corporations justly of knowledge-based crimes, courts must have an adequate theory of corporate knowledge. Characterizing corporate knowledge too narrowly, as respondeat superior does, will fail to hold corporations accountable when they engage in clear criminal wrongdoing.⁵² This is unfair to the victims of that wrongdoing⁵³ and risks undermining the broader legitimacy of criminal law.⁵⁴ Characterizing corporate knowledge too broadly risks convicting corporations for something less than knowledge, thereby unjustly burdening innocent shareholders, employees, and creditors whose interests are bound up with those of the corporation.⁵⁵ If we are to realize the intent behind legislators' efforts to pair crimes with just punishments,⁵⁶ the law needs a normatively defensible corporate epistemology.

This Article offers that. Respondeat superior and the collective knowledge doctrine apply with equal force and in the same way to all corporations and all types of knowledge.⁵⁷ Given the huge

50. See *Overview—Rule of Law*, U.S. CTS., <https://www.uscourts.gov/educational-resources/educational-activities/overview-rule-law> [<https://perma.cc/K33N-ZSAE>] (“Rule of law is a principle under which all persons, institutions, and entities are accountable to laws that are: [p]ublicly promulgated[,] [e]qually enforced[,] [i]ndependently adjudicated[,] [a]nd consistent with international human rights principles.”).

51. See *Kolender v. Lawson*, 461 U.S. 352, 357 (1983) (holding that due process “requires that a penal statute define the criminal offense with sufficient definiteness that ordinary people can understand what conduct is prohibited and in a manner that does not encourage arbitrary and discriminatory enforcement”).

52. See Dan K. Webb et al., *Understanding and Avoiding Corporate and Executive Criminal Liability*, 49 BUS. LAW. 617, 625 (1994) (“Given the often complex and decentralized nature of many corporations, it is sometimes difficult, if not impossible, to prove that any single corporate agent acted with the necessary intent and knowledge to commit an offense.”).

53. See Lawrence Friedman, *In Defense of Corporate Criminal Liability*, 23 HARV. J.L. & PUB. POL’Y 833, 843 (2000) (“Criminal liability in turn expresses the community’s condemnation of the wrongdoer’s conduct by emphasizing the standards for appropriate behavior—that is, the standards by which persons and goods properly should be valued.”).

54. See generally PAUL H. ROBINSON, *INTUITIONS OF JUSTICE AND THE UTILITY OF DESERT* (2013) (discussing the importance of “core” agreement in regards to punishment).

55. See Alschuler, *supra* note 39, at 1367 (“This punishment is inflicted instead on human beings whose guilt remains unproven. Innocent shareholders pay the fines, and innocent employees, creditors, customers, and communities sometimes feel the pinch too.”).

56. U.S. SENTENCING GUIDELINES MANUAL § 1A2 (U.S. SENTENCING COMM’N 2018) (stating that the purposes of the Sentencing Reform Act include “providing certainty and fairness in meeting the purposes of sentencing”).

57. See Walsh & Pyrich, *supra* note 33, at 619-20; *infra* notes 180-82 and accompanying

variation in size, complexity, and industry among corporations, it should come as no surprise that such a one-size-fits-all approach falls short. In place of present doctrine, this Article proposes a “functional approach” that uses two scalable variables to draw the line between what counts as information and what counts as knowledge. The first variable is the cost of acquiring the knowledge, i.e., how much it would cost to implement and maintain a compliance program that gathers and processes the information into a usable form. In the terminology of this Article, this is a measure of how “effortful” it would be for the corporation to acquire the knowledge. The second variable is the “obviousness” of the knowledge, i.e., whether peer corporations (of similar size, industry, etc.) gather and process similar information in similar circumstances. In the present proposal, these two factors push the line dividing knowledge and mere information in opposite directions. The less effort a corporation would need to process some information and the more obvious that information is, the *more* likely a court should treat that information as something the corporation knows. Conversely, the more effort required and the less obvious some information is, the *less* likely a court should treat the information as knowledge. This Article argues that such a scaling, functional approach to corporate knowledge could efficiently calibrate corporate compliance incentives by striking the right balance between the costs of corporate crime and compliance. Importantly, it would stay truer than current doctrine to Congress’s choice to define some crime in terms of culpable knowledge.

Along the way, this Article gives much-needed attention to some unacknowledged nuances of the collective knowledge doctrine. Courts’ and scholars’ reception of the collective knowledge doctrine has been mixed.⁵⁸ Indeed, only one court has unambiguously endorsed the collective knowledge doctrine after it was introduced to corporate criminal law more than three decades ago.⁵⁹ Many worry

text.

58. See Eli Lederman, *Corporate Criminal Liability: The Second Generation*, 46 STETSON L. REV. 71, 82-83 (2016) (“The approach of federal and state courts toward [collective knowledge] varies.”). Compare *Chaney v. Dreyfus Serv. Corp.*, 595 F.3d 219, 241 (5th Cir. 2010) (rejecting the collective knowledge doctrine), with *United States v. Philip Morris USA, Inc.*, 449 F. Supp. 2d 1, 894 (D.D.C. 2006).

59. See Steve Solow, *What Does a Corporation Have to “Know” to Be Criminally*

that the doctrine overreaches and makes corporations too vulnerable to prosecution.⁶⁰ This worry is justified, but fixable. Many scholars and courts—because they often conflate knowledge and information—have overlooked an important difference between how the doctrine is formulated and how it is applied. In the space between formulation and application, courts are making normative choices *sub silentio* about the difference between knowledge and information. For committed opponents of the collective knowledge doctrine, this observation may reaffirm their opinion of its deficits. For people who think (as argued below) that the law needs something like collective knowledge to patch the doctrinal gaps left by respondeat superior, there is space to refine collective knowledge and address its potential overreach.

This Article begins with some background to corporate knowledge, in Part I, and a general critique of present doctrine for attributing knowledge to corporations, in Part II. To carry the analysis forward, Part III details an evaluative framework for better understanding the shortcomings of present doctrine and the advantages of the coming proposal. It suggests that a successful approach would do two things: (1) give corporations efficient incentives to implement and maintain socially optimal levels of compliance, and (2) stay true to Congress's choice to use knowledge as an element of certain crimes. Part IV introduces the notions of effort and obviousness to develop a functional approach to corporate knowledge. As this Article shows in Part V, this functional approach can give corporations the right incentives and makes intuitive sense of what "knowledge" means in criminal statutes as applied to corporations. This Article concludes with some reflections on the broader implications and uses of the functional approach, that is for civil law and corporate advocacy.

Prosecuted?, COMPLIANCE & ENFORCEMENT (Oct. 5, 2016), https://wp.nyu.edu/compliance_enforcement/2016/10/05/what-does-a-corporation-have-to-know-to-be-criminally-prosecuted/ [<https://perma.cc/952V-V5GC>].

60. See Hagemann & Grinstein, *supra* note 35, at 239 (“[C]ollective knowledge doctrine would result in a criminal conviction for simple negligence, and not intentional wrongdoing. That is presumably not what Congress contemplates when it uses the word knowingly in a statute.”); John Hasnas, *The Centenary of a Mistake: One Hundred Years of Corporate Criminal Liability*, 46 AM. CRIM. L. REV. 1329, 1338 n.38 (2009) (“[T]he collective knowledge doctrine is probably more vulnerable to objections than the *New York Central* standard.”).

A short methodological note: this Article primarily targets judges, who created and have the power to refine the doctrines discussed below.⁶¹ This Article aims to work within the parameters of established corporate criminal law and to propose doctrines that will supplement, rather than replace.⁶² It will not question, because the law does not, whether it ultimately makes sense to hold corporations criminally liable or whether corporations can have culpable mens rea like knowledge.⁶³ Politically, corporate criminal law is very popular in the United States⁶⁴ and is expanding both here⁶⁵ and abroad.⁶⁶ For better or worse, it is here to stay.⁶⁷ This Article takes this fact as its starting point. It tries to make the best sense of corporate criminal law as it stands, so that the law can achieve its own goals and advance many of the less controversial goals of corporate civil and administrative law. To the extent possible, this Article will take present legal doctrines that bear on corporate knowledge as it finds them. The goal is to fill in the gaps in a way that can fulfill the law's policy and justice objectives. This approach has the significant advantage of a realistic prospect for implementation. The judges who are its intended audience prefer incremental change.⁶⁸

61. See Stacey Neumann Vu, *Corporate Criminal Liability: Patchwork Verdicts and the Problem of Locating a Guilty Agent*, 104 COLUM. L. REV. 459, 486 (2004) ("With the exception of the [U.S. Sentencing Guidelines], the body of law that defines the contours of corporate criminal liability is entirely judge made and thus subject to evolution and refinement." (footnote omitted)).

62. Corporate criminal law has no shortage of vocal critics calling for its abolition. See, e.g., Hasnas, *supra* note 60, at 1329 ("[Corporate criminal liability] should be explicitly overruled.").

63. As I have argued elsewhere, I think corporate criminal law is a valuable institution and the concept of corporate culpability makes sense. See Diamantis, *supra* note 11, at 2058-67.

64. See Miriam H. Baer, *Choosing Punishment*, 92 B.U. L. REV. 577, 612 (2012) ("The public has increasingly registered greater moral outrage in response to corporate governance scandals.").

65. See V.S. Khanna, *Corporate Criminal Liability: What Purpose Does It Serve?*, 109 HARV. L. REV. 1477, 1477 (1996) (noting the expansion of corporate criminal liability).

66. See Edward B. Diskant, *Comparative Corporate Criminal Liability: Exploring the Uniquely American Doctrine Through Comparative Criminal Procedure*, 118 YALE L.J. 126, 142 (2008) ("Germany continues to resist corporate criminal liability, even as many of her neighbors in Western Europe have tentatively begun to change course in response to recent corporate scandals in the United States and Europe.").

67. See William Robert Thomas, *How and Why Corporations Became (and Remain) Persons Under the Criminal Law*, 45 FLA. ST. U. L. REV. 479, 481 (2018).

68. See GUIDO CALABRESI, *A COMMON LAW FOR THE AGE OF STATUTES* 4 (1985); Boris I.

I. BACKGROUND TO KNOWLEDGE, CORPORATE AND CRIMINAL⁶⁹

Corporate knowledge, like any corporate mental state, is an odd sort of thing.⁷⁰ The law often speaks as though corporations have mental states.⁷¹ Furthermore, as I discuss below, we all have ingrained psychological mechanisms that dispose us to think of corporations as capable of knowing, intending, and feeling things.⁷² Even so, it strains credulity to think that corporations *really* have minds.⁷³ Judges sometimes step out of role and recognize this tension between law and common sense by acknowledging that the corporate mind is fiction.⁷⁴ The tension is never dissolved. As the Supreme Court has affirmed, “[T]he corporate personality is a fiction, although a fiction intended to be acted upon as though it were a fact.”⁷⁵

With respect specifically to knowledge, one thing that compounds the confusion is that criminal law, both for corporate and natural person defendants, understands knowledge in a very idiosyncratic way. Epistemologists, academics who study knowledge, would universally reject the criminal law’s definition.⁷⁶ Though there are still

Bittker, *Interpreting the Constitution: Is the Intent of the Framers Controlling? If Not, What Is?*, 19 HARV. J.L. & PUB. POL’Y 9, 51 (1995) (“Judges are cautious and reflective, if not by nature, then by nurture: legal education is respectful of precedent and favors incremental changes over convulsions.”).

69. I am grateful to Eric Miller and Chad Flanders for encouraging me to add this important clarifying Part.

70. See generally Diamantis, *supra* note 11 (describing the legal peculiarities and other issues with the corporate knowledge doctrine).

71. See Mark M. Hager, *Bodies Politic: The Progressive History of Organizational “Real Entity” Theory*, 50 U. PITT. L. REV. 575, 581 (1989).

72. See *infra* Part III.B.

73. See David H. Kistenbroker et al., *Corporate Motive and Time Warner: Smoke and Mirrors Revisited*, in PRACTISING LAW INSTITUTE, CORPORATE LAW & PRACTICE COURSE HANDBOOK SERIES, NO. B-1386 125, 129 (2003) (“Corporations may legally be people, but they are also legal fictions and only natural persons can possess states of mind.”).

74. See *Cruz v. Homebase*, 99 Cal. Rptr. 2d 435, 439 (Ct. App. 2000) (“Corporations are legal entities which do not have minds capable of recklessness, wickedness, or intent to injure or deceive.”); 19 C.J.S. *Corporations* § 772 (2019) (“A corporation has no mind.”).

75. *Int’l Shoe Co. v. Washington*, 326 U.S. 310, 316 (1945).

76. See PAUL K. MOSER & ARNOLD VANDER NAT, *HUMAN KNOWLEDGE: CLASSICAL AND CONTEMPORARY APPROACHES* 12-15 (1987) (describing the justification condition of knowledge and explaining that “knowledge is not simply true belief”).

many open debates about particulars,⁷⁷ epistemologists largely agree that knowledge is something like “justified true belief.”⁷⁸ The qualification that the belief be justified is meant to exclude cases where someone has a random belief that just happens to be true but has no good reason for believing it. For example, someone’s horoscope might predict that “a lot of information will be coming at [them] rapidly today.”⁷⁹ She might believe it, and it might come true. However, it would be odd to say she *knew* it would happen. She may have been confident, but she lacked any good justification for her belief (apologies to the astrologists out there). Criminal law’s definition of “knowledge” nixes the justification requirement.⁸⁰ Knowledge in criminal law is just any true belief.⁸¹ The Model Penal Code, for example, defines knowledge in terms of “practical[] certain[ty]” and “aware[ness] of a high probability.”⁸² There is no mention of justification.⁸³

This may be because criminal law does not really care about knowledge in the precise philosophical sense of the term. The function that knowledge and the other mens rea play in the criminal law is to distinguish merely harmful behavior from criminal behavior.⁸⁴ Thought alone is not punishable.⁸⁵ And punishing acts without requiring any accompanying mental state, though some statutes allow it, is a disfavored exception to the general rule.⁸⁶ Mens rea elements also serve to grade how serious an offense is. Intentional harms are more serious than knowing harms, which in

77. See Edmund L. Gettier, *Is Justified True Belief Knowledge?*, 23 ANALYSIS 121, 121 (1963) (arguing that not all justified true belief is knowledge).

78. See MOSER & VANDER NAT, *supra* note 76, at 3.

79. *Aries Daily Horoscope*, ZODIACMORE, <https://zodiacmore.com/daily-horoscope/> [<https://perma.cc/WL3L-EJZK>].

80. See Warren A. Seavey, *Negligence—Subjective or Objective?*, 41 HARV. L. REV. 1, 17 (1927) (“Describing knowledge as belief in the existence of a fact, belief is the mental element which if coincident with truth creates knowledge.”).

81. See *id.*

82. MODEL PENAL CODE § 2.02 (AM. LAW INST. 1962).

83. See *id.*

84. See Winnie Chan & A.P. Simester, *Four Functions of Mens Rea*, 70 CAMBRIDGE L.J. 381, 381 (2011).

85. See Gabriel S. Mendlow, *Why Is It Wrong to Punish Thought?*, 127 YALE L.J. 2342, 2345 (2018).

86. 22 C.J.S. *Criminal Law* § 35 (2019) (“Strict criminal liability statutes remain the exception in our criminal law system, not the rule, and have a generally disfavored status.” (footnote omitted)).

turn are more serious than harms caused negligently.⁸⁷ So arguably, what criminal law really cares about when it uses knowledge as a mens rea element is not knowledge per se. Rather, criminal law cares about internal states of people—corporate and natural—who do bad things, and whether those internal states make the people as culpable as if they had done the bad thing knowingly, in the philosophical sense.

Internal states that are as culpable as knowledge play the same role as actual knowledge, so far as the criminal law is concerned.⁸⁸ This explains why criminal law has doctrines for so-called “constructive knowledge,” such as willful blindness.⁸⁹ Willful blindness refers to situations where a person is aware of a high probability that a fact is true and deliberately avoids confirming it.⁹⁰ In such cases, courts will impute knowledge of the fact to the defendant, even though she does not *know* it in the epistemological sense.⁹¹ The thought here is that “[d]eliberate ignorance and positive knowledge are [equivalent in the sense of being] equally culpable.”⁹² Both are types of knowledge, so far as the criminal law is concerned.⁹³

The criminal law’s flexible conception of knowledge gives some theoretical wiggle room for framing this Article. Is the law’s conception focused on corporate knowledge in the epistemological sense or on corporate states that are the criminal justice equivalent of knowledge, i.e. constructive knowledge? In a sense, the answer does not matter. So far as the criminal law is concerned, both knowledge

87. See Paul H. Robinson & Jane A. Grall, *Element Analysis in Defining Criminal Liability: The Model Penal Code and Beyond*, 35 STAN. L. REV. 681, 689-90 (1983) (discussing how mens rea is used to grade the seriousness of criminal conduct).

88. See *Knowledge*, BLACK’S LAW DICTIONARY (10th ed. 2014) (defining “knowledge” as “a state of mind in which a person has no substantial doubt about the existence of a fact” and “actual knowledge” as “direct and clear knowledge”).

89. See *id.*

90. *Global-Tech Appliances, Inc. v. SEB S.A.*, 563 U.S. 754, 769 (2011) (“While the Courts of Appeals articulate the doctrine of willful blindness in slightly different ways, all appear to agree on two basic requirements: (1) The defendant must subjectively believe that there is a high probability that a fact exists and (2) the defendant must take deliberate actions to avoid learning of that fact. We think these requirements give willful blindness an appropriately limited scope that surpasses recklessness and negligence.” (footnote omitted)).

91. See *id.* at 769 n.9.

92. Sean Bajkowski & Kimberly R. Thompson, *Corporate Criminal Liability*, 34 AM. CRIM. L. REV. 445, 452 (1997).

93. See *id.*

in the epistemic sense and constructive knowledge are species of what it calls “knowledge.”⁹⁴ For readers who care most about knowledge in the epistemic sense and think groups like corporations can have it, the functional account I offer below is the most intuitive approach available.⁹⁵ For readers who think corporations cannot have knowledge in the epistemic sense, all doctrines of corporate knowledge are necessarily doctrines of constructive knowledge because corporations never know anything in the epistemic sense.⁹⁶ These readers may view this Article as continuing in that tradition, but trying to offer a superior, more flexible account of when criminal corporations have internal states that are the criminal justice equivalents of knowledge.

II. CURRENT DOCTRINES FOR CORPORATE KNOWLEDGE

Criminal law currently has two doctrines for attributing knowledge to corporations: respondeat superior⁹⁷ and the collective knowledge doctrine.⁹⁸ As much as possible, I aim to leave these doctrines in place. But they cannot stand totally undisturbed if we are to have an efficient and just corporate criminal law. Judges introduced both doctrines in response to real gaps in corporate liability.⁹⁹ Unfortunately, they did so with little attention to sound policy or conceptual coherence.¹⁰⁰ As discussed below, both doctrines were adopted from civil law without acknowledging the important differences of the criminal law context.¹⁰¹ As practical solutions, they are impractical. As criminal justice solutions, they are unjust.

The doctrines fail for opposite reasons. Respondeat superior characterizes corporate knowledge too narrowly. It allows corporations to escape liability by leaving a lot of information on the table

94. See David Luban, *Contrived Ignorance*, 87 GEO. L.J. 957, 959 (1999) (explaining that in criminal law, willful ignorance and knowledge are equivalent).

95. See *infra* Part IV.D.

96. See Simon Stern, *Constructive Knowledge, Probable Cause, and Administrative Decisionmaking*, 82 NOTRE DAME L. REV. 1085, 1086 (2007) (discussing collective knowledge as a type of constructive knowledge).

97. See *N.Y. Cent. & Hudson River R.R. v. United States*, 212 U.S. 481, 494-95 (1909).

98. See *United States v. Bank of New Eng.*, 821 F.2d 844, 856 (1st Cir. 1987).

99. See *N.Y. Cent.*, 212 U.S. at 494-95; *Bank of New Eng.*, 821 F.2d at 856.

100. See *N.Y. Cent.*, 212 U.S. at 494-95; *Bank of New Eng.*, 821 F.2d at 856.

101. See *infra* notes 109-10 and accompanying text.

as mere information.¹⁰² This under-incentivizes investment in corporate compliance and allows corporations to escape retributive punishment.¹⁰³ The collective knowledge doctrine moves too far in the opposite direction, characterizing too much information as knowledge.¹⁰⁴ Consequently, it incentivizes corporations to invest in socially wasteful compliance and unjustly subjects corporations to knowledge-level sanctions where mere negligence is at issue.¹⁰⁵

A. *Respondeat Superior*

Crimes typically require an actus reus and a mens rea,¹⁰⁶ but corporations have neither bodies with which to act nor minds with which to think.¹⁰⁷ Everything they do or think, they do or think through their employees. Criminal law courts needed some doctrine for determining when to attribute the acts and mental states of employees to their corporate employers.¹⁰⁸ So they borrowed the doctrine of respondeat superior from tort law.¹⁰⁹ After some refinement over the years, the doctrine currently directs courts to attribute to corporations any act or mental state exhibited by any single employee “within the scope of [her] employment [and] with the intent to benefit the corporation.”¹¹⁰ Thus, if the government

102. See Abril & Olazábal, *supra* note 38, at 85-86 (explaining that respondeat superior may fail to hold corporations liable “when the act and the intent do not coincide in a single corporate actor”).

103. See Walsh & Pyrich, *supra* note 33, at 664, 682 (explaining that the existence of a compliance program is usually not a defense to respondeat superior and that sometimes a cost versus benefit analysis weighs against maintaining a robust compliance program).

104. See Abril & Olazábal, *supra* note 38, at 120.

105. See Ashley S. Kircher, Note, *Corporate Criminal Liability Versus Corporate Securities Fraud Liability: Analyzing the Divergence in Standards of Culpability*, 46 AM. CRIM. L. REV. 157, 167 (2009) (discussing how critics of collective knowledge argue it leads to excessive monitoring compliance).

106. See *United States v. Apfelbaum*, 445 U.S. 115, 131 (1980) (“In the criminal law, both a culpable *mens rea* and a criminal *actus reus* are generally required for an offense to occur.”).

107. See, e.g., *Kistenbroker et al.*, *supra* note 73, at 130 (“Corporations may legally be people, but they are also legal fictions and only natural persons can possess states of mind.”).

108. See Walsh & Pyrich, *supra* note 33, at 614-17.

109. See *id.*

110. RESTATEMENT (THIRD) OF AGENCY § 2.04 (AM. LAW INST. 2006) (“An employer is subject to liability for torts committed by employees while acting within the scope of their employment.”); see *Developments in the Law—Corporate Crime: Regulating Corporate Behavior Through Criminal Sanction*, 92 HARV. L. REV. 1227, 1247 (1979) [hereinafter *Developments in the Law—Corporate Crime*]. This Article does not claim that this jurisprudence has settled

can demonstrate that some employee knew something, and the scope and intent requirements are met, a court must conclude that the corporation knew it too.¹¹¹

Respondeat superior is, in a sense, quite permissive; corporations, regardless of size and geographic reach, are potentially on the hook for any criminal act or culpable mental state of any employee.¹¹² The doctrine has become even more permissive as courts have weakened its two limitations.¹¹³ For example, many observers thought that employees who totally disregarded explicit instructions from their employers were not working “within the scope of [their] employment.”¹¹⁴ Courts later held that was no bar to corporate liability under respondeat superior.¹¹⁵ Many also thought that “inten[t] to benefit” meant prosecutors would have to show that an employee actually intended to benefit her employer.¹¹⁶ Again, courts interpreted respondeat superior broadly so that now even some subsidiary, hypothetical intent an employee could have had to benefit her employer might satisfy the “intent to benefit” requirement.¹¹⁷

Though backed by more than a hundred years of criminal jurisprudence, respondeat superior is not popular among commentators.¹¹⁸ In earlier work, I provided an account of respondeat superior’s mixed history and increasing ineptitude as a general doctrine of liability for modern corporations.¹¹⁹ I turn here to its failings specifically as a doctrine for attributing knowledge. The aging

on the optimal conception of corporate action, and readers should feel free to substitute their own.

111. See *Developments in Law—Corporate Crime*, *supra* note 110, at 1247.

112. See Walsh & Pyrich, *supra* note 33, at 619-20.

113. See *Developments in Law—Corporate Crime*, *supra* note 110, at 1247-50.

114. *Holland Furnace Co. v. United States*, 158 F.2d 2, 8 (6th Cir. 1946) (“[T]here is irreconcilable conflict among the authorities as to whether a principal may be held criminally liable for the acts of his agent, acting within the scope of his apparent authority but against the positive instructions of his principal.”).

115. See, e.g., *United States v. Hilton Hotels Corp.*, 467 F.2d 1000, 1007 (9th Cir. 1972).

116. See Walsh & Pyrich, *supra* note 33, at 623 (“So long as the agent’s acts were motivated in part by some desire to benefit the corporation, they may be imputed to the corporation itself.”).

117. See, e.g., *United States v. Sun-Diamond Growers of Cal.*, 138 F.3d 961, 970 (D.C. Cir. 1998).

118. See Samuel W. Buell, *The Blaming Function of Entity Criminal Liability*, 81 *IND. L.J.* 473, 520 (2006) (“[A]most no one has defended respondeat superior as the right liability rule.”).

119. See Diamantis, *supra* note 11, at 2053-58.

doctrine fails to take account of modern corporations' malleability, which allows corporations to avoid justice by structuring what becomes knowledge and what remains mere information.¹²⁰

Ironically, in light of its permissiveness, the basic trouble with respondeat superior is that it defines corporate knowledge too narrowly. In so doing, it allows corporations to leave as mere information, or to convert to mere information, what it would benefit criminal justice for them to know.¹²¹ All corporations want to manage their criminal liabilities. In order to be convicted of a knowledge-based crime under respondeat superior, prosecutors have to find a single employee with *all* of the predicate knowledge.¹²² But corporations can be large organizations, with responsibility for different operations and suboperations dispersed across thousands of employees.¹²³ The beauty of the assembly line, and the source of its efficiency, is that nobody working on it needs to know how to build a car; they only need to know how to screw the bolts or weld the joints for which they are responsible.¹²⁴ Unlike assembly lines, large corporations typically have no equivalent of a foreman or lead engineer who knows the entire operation inside and out.¹²⁵ The natural congregation point for corporate knowledge, the executive suite, often has the least detailed knowledge about corporate operations.¹²⁶ The higher one travels up the corporate pyramid, the

120. See *id.* at 2056-57.

121. David Luban has a nice, related discussion of how this plays out for individuals. See Luban, *supra* note 94, at 976-77.

122. See Nan S. Ellis & Steven B. Dow, *Attaching Criminal Liability to Credit Rating Agencies: Use of the Corporate Ethos Theory of Criminal Liability*, 17 U. PA. J. BUS. L. 167, 180 (2014) ("In order to attach liability under respondeat superior, corporations are held liable only if a specific guilty individual can be identified.").

123. See *United States v. Hilton Hotels Corp.*, 467 F.2d 1000, 1006 (9th Cir. 1972) (recognizing that corporations are "[c]omplex business structures, characterized by [the] decentralization and delegation of authority"); Kircher, *supra* note 105, at 159. ("[T]he respondeat superior approach is highly problematic because the corporate structure can make it difficult to locate and establish the guilt of agents who possess the requisite intent and, thus, the corporate defendant has the advantage of being able to create reasonable doubt as to each agent and to escape liability altogether.").

124. See *Assembly Line*, ENCYCLOPEDIA BRITANNICA, <https://www.britannica.com/technology/assembly-line> [<https://perma.cc/A2TR-WTEW>].

125. See Walsh & Pyrich, *supra* note 33, at 635 ("Corporations are highly decentralized, with responsibilities delegated down several levels of management.").

126. See *Developments in the Law—Corporate Crime*, *supra* note 110, at 1254-55 ("[T]op officials whose conduct would subject the corporation to liability [under the Model Penal Code

more ignorance one finds about the day-to-day operations where criminal conduct is most likely to occur.¹²⁷ Under respondeat superior, prosecutors routinely have trouble pursuing large corporations for knowledge-based crimes because the corporate information structure often prevents anyone from having the requisite knowledge.¹²⁸

Respondeat superior gives corporations a strong incentive to leave compliance-relevant information dispersed, unaggregated, and unprocessed.¹²⁹ Doing so increases the chance that no single employee will know enough to satisfy the mens rea requirement of knowledge-based crimes.¹³⁰ As such, respondeat superior tends to push corporate incentives concerning knowledge in just one direction—toward ignorance and against investment in compliance.

Corporations can and do exploit this knowledge loophole of respondeat superior in ways that immunize them from criminal charges.¹³¹ By structuring operations and employee roles, they can assure that lower-level employees are unlikely to acquire enough relevant knowledge.¹³² Corporate structures can hinder the horizontal flow of information between individuals and operations at

proposal] are often too far removed from daily operations to be charged with authorizing or recklessly tolerating criminal activity at lower levels.”); Brickey, *supra* note 41, at 643 (explaining that strict liability rules may be necessary because management is removed from on the ground operators).

127. See ASS’N OF CERTIFIED FRAUD EXAM’RS, REPORT TO THE NATIONS ON OCCUPATIONAL FRAUD AND ABUSE 40 (2014), <http://www.acef.com/rtnn/docs/2014-report-to-nations.pdf> [<https://perma.cc/274K-GBDQ>] (showing that approximately 80 percent of fraud within corporations is committed by nonexecutives).

128. See Michael L. Benson et al., *District Attorneys and Corporate Crime: Surveying the Prosecutorial Gatekeepers*, 26 CRIMINOLOGY 505, 511-12 (1988) (reporting from a survey of district attorneys in California that the difficulty of pinpointing individual intent discourages them from filing charges against corporations).

129. See Abril & Olazábal, *supra* note 38, at 85-86 (explaining that respondeat superior may fail to hold corporations liable “when the act and the intent do not coincide in a single corporate actor”).

130. See *id.* “Given that many corporations are large decentralized groups of individuals, often with collectivized decisionmaking structures and a multitude of actors participating in a single corporate act,” respondeat superior is not always an effective way of holding corporations accountable. *Id.*

131. See Benson et al., *supra* note 128, at 507 (describing how prosecutorial efforts can be thwarted because “large-scale organizations develop mechanisms for shielding their members from responsibility for corporate actions”).

132. See ALEXANDER SARCH, CRIMINALLY IGNORANT: WHY THE LAW PRETENDS WE KNOW WHAT WE DON’T 231, 252 (2019); Benson et al., *supra* note 128, at 511-12.

the same level simply because, for example, employees are placed in geographically distant offices or have different access to corporate databases.¹³³ Corporate structures can also inhibit the vertical flow of information up the corporate hierarchy.¹³⁴ Well-trained middle managers know what their superiors want to know, and, just as importantly, what they do not want to know.¹³⁵

Respondeat superior also lacks the sort of flexibility it would need to fine-tune incentives across a diversity of corporations. The doctrine applies the same unflinching conditions in every context.¹³⁶ This is strange from an incentive-setting perspective. The public and private costs of corporate knowledge and ignorance can vary dramatically by industry. In some industries, such as those that involve toxins or pollutants, the public costs of criminal conduct can be very high, while the private costs of a corporation acquiring enough knowledge to prevent the criminal conduct can be quite low.¹³⁷ In other industries, the public and private costs may be reversed.¹³⁸ These same costs also vary with a corporation's size—lower private costs of compliance and lower public costs of crime for smaller corporations, reversed for large corporations.¹³⁹

133. See Paul Graf, *A Realistic Approach to Officer Liability*, 66 BUS. LAW. 315, 322 (2011) (questioning the assumption “that officers have unfettered access to information, apparently because of their status as officers” and discussing the “insidious effects of corporate ‘silos’”).

134. See Darryl K. Brown, *The Problematic and Faintly Promising Dynamics of Corporate Crime Enforcement*, 1 OHIO ST. J. CRIM. L. 521, 546 (2004) (“Firms with information control are likely sometimes to be able to ‘push liability downward’ to mid-level employees who responded to corporate incentives rather than acted as pure renegades.”).

135. See Luban, *supra* note 94, at 958 (“In the familiar corporate adage, bad news doesn’t flow upstream.... ‘When the subordinate makes his report, he is often told: ‘I think you can do better than that,’ until the subordinate has worked out all the details of the boss’s predetermined solution, without the boss being specifically aware of ‘all the eggs that have to be broken.’” (quoting ROBERT JACKALL, *MORAL MAZES: THE WORLD OF CORPORATE MANAGERS* 20 (1988))).

136. See Walsh & Pyrich, *supra* note 33, at 619-20.

137. See Neal Shover & Aaron S. Routhe, *Environmental Crime*, 32 CRIME & JUST. 321, 329 (2005) (“The costs of environmental crime are numerous and varied, and no one seriously disputes that its aggregate financial toll is enormous.”); see also *id.* at 345 (explaining business response to the environmental movement).

138. See Hayne E. Leland, *Insider Trading: Should It Be Prohibited?*, 100 J. POL. ECON. 859, 883-85 (1992) (arguing that insider trading may be beneficial in reducing uncertainty in the markets).

139. See Assaf Hamdani & Alon Klement, *Corporate Crime and Deterrence*, 61 STAN. L. REV. 271, 296 (2008) (“An organization’s size and structure undoubtedly affect its ability to eliminate agent misconduct. When a firm has numerous agents, it becomes likely that some

This means that the socially optimal level of investment in knowledge-generating compliance mechanisms varies among corporations, as does the sort of inducement that would get corporations to invest at that level.

Respondeat superior also fails to provide a retributively satisfying account of corporate knowledge. By diffusing information across multiple employees, corporations can escape justice despite the palpable sense that they knowingly did something wrong.¹⁴⁰ For example, suppose a natural gas pipeline explodes, killing several people, because corporate employees did not operate the pipeline following minimum safety standards.¹⁴¹ Federal law criminalizes knowing violations of these standards.¹⁴² But if the knowledge relevant to the violation was spread across different employees—those in the back offices who knew about the standards and those in the field who knew how the pipeline was being operated—the corporation may escape prosecution.¹⁴³ Under respondeat superior, the corporation would not have committed a crime since no one person within the corporation would have known the standards were being shirked.¹⁴⁴

To make matters worse, it does not matter under respondeat superior why there was no communication channel between the legal and the operational employees.¹⁴⁵ There are any number of conceivable innocent explanations, but there are also more nefarious possibilities that seem tantamount to corporate knowledge.¹⁴⁶ Respondeat superior would require acquittal of knowledge-based charges whatever the explanation.¹⁴⁷ Perhaps the information flow was inhibited by a technological problem that no one knew or could have known about. Perhaps the need for a communication channel was apparent, but executives in the company thought it was too

agents will commit misconduct notwithstanding the firm's policing effort.”).

140. For a fascinating discussion of several such cases, see SARCH, *supra* note 132, at 231-34.

141. This discussion is based on *United States v. Pac. Gas & Elec. Co.*, No. 14-CR-00175-TEH, 2015 WL 9460313, at *1 (N.D. Cal. Dec. 23, 2015).

142. Pipeline Safety Act, 49 U.S.C. § 60123 (2012); 49 C.F.R. § 192.1 (2007).

143. *See id.* § 60123.

144. *See Developments in the Law—Corporate Crime*, *supra* note 110, at 1247.

145. *See Ellis & Dow*, *supra* note 122, at 180.

146. *See Luban*, *supra* note 94, at 970.

147. *See Ellis & Dow*, *supra* note 122, at 180.

expensive. Or perhaps the legal and operational departments once had open communication channels, but an executive concerned with managing criminal liabilities interfered.¹⁴⁸ In this last circumstance, the relevant corporate mental state seems morally equivalent to knowledge,¹⁴⁹ a kind of corporate willful ignorance.¹⁵⁰ But because respondeat superior carves up corporate mental states at the individual level, traditional willful ignorance doctrines that would otherwise allow for knowledge attribution in federal law would not apply.¹⁵¹ The executive in the last scenario would have had to will her own ignorance, not that of another employee.¹⁵²

B. The Collective Knowledge Doctrine

To plug the obvious gap that respondeat superior leaves in corporate criminal liability for knowledge-based crimes, some jurisdictions have adopted the collective knowledge doctrine.¹⁵³ Under the collective knowledge doctrine, prosecutors do not need to find a single employee with all the relevant knowledge; they can attribute to a corporation anything known by any and all of its employees.¹⁵⁴ Continuing the exploding pipeline example from the last Section, if one employee knows about applicable pipeline safety

148. Some might argue the doctrine of willful blindness could come into play here to establish the corporation's knowledge. See Solow, *supra* note 59. Willful ignorance is a doctrine that allows courts to attribute knowledge to a defendant who deliberately took steps to avoid learning it. See *Global-Tech Appliances, Inc. v. SEB S.A.*, 563 U.S. 754, 767 (2011) (accepting the Model Penal Code's definition of "'knowledge of the existence of a particular fact' to include a situation in which 'a person is aware of a high probability of [the fact's] existence, unless he actually believes that it does not exist'" (alteration in original) (quoting MODEL PENAL CODE § 2.02(7) (Proposed Official Draft 1962))). Here, it is unlikely that willful ignorance would apply since the executive was not trying to avoid acquiring knowledge for *herself*, but to prevent others from acquiring it. See *id.*

149. See Bajkowski & Thompson, *supra* note 92, at 452; Luban, *supra* note 94, at 970 ("The idea is that when ignorance is self-imposed, the plea of ignorance is, to use the Latin word, nothing but chutzpah.")

150. See Pamela H. Bucy, *Corporate Ethos: A Standard for Imposing Corporate Criminal Liability*, 75 MINN. L. REV. 1095, 1137 (1991) ("Factfinders should ascertain whether channels of communication are open and effective. If not, is the ineffectiveness accidental or planned?"); Solow, *supra* note 59.

151. See *Global-Tech*, 563 U.S. at 769.

152. See SARCH, *supra* note 132, at 232-33.

153. See *United States v. Bank of New Eng.*, 821 F.2d 844, 856 (1st Cir. 1987).

154. See *id.*

standards and another knows how the pipeline is being operated, under the collective knowledge doctrine, the corporation knows both.¹⁵⁵ So corporations can be guilty of knowledge-based crimes in jurisdictions that accept the collective knowledge doctrine even when there is no single employee with all the guilty knowledge.¹⁵⁶

United States v. Bank of New England, the seminal case for the collective knowledge doctrine,¹⁵⁷ offers a good illustration of how this works.¹⁵⁸ The court was concerned to address situations where “[c]orporations compartmentalize knowledge, subdividing the elements of specific duties and operations into smaller components.”¹⁵⁹ The defendant bank was charged with knowingly violating the Currency Transaction Reporting Act¹⁶⁰ by failing to report cash transfers in excess of \$10,000.¹⁶¹ Individual tellers had separately cashed checks to the same customer that, when summed, totaled more than \$10,000.¹⁶² Another employee of the bank knew about the reporting requirements, but not about the transactions.¹⁶³ All of the employees were acquitted because none knew both the legal limits and that the transactions exceeded the limits.¹⁶⁴ Under respondeat superior, this would have required acquittal of the bank too;¹⁶⁵ however, the court upheld the bank’s conviction using collective knowledge.¹⁶⁶

155. See *id.* at 855 (“[I]f Employee A knows one facet of [a legal] reporting requirement, B knows another facet of it, and C a third facet of it, the bank knows them all.” (quoting and approving jury instructions given at trial)).

156. See *id.*

157. But see Hagemann & Grinstein, *supra* note 35, at 227 (arguing that academics have misinterpreted *Bank of New England* and its progeny as endorsing the collective knowledge doctrine).

158. See 821 F.2d at 854-57.

159. *Id.* at 856.

160. 31 U.S.C. § 5322 (2012).

161. *Bank of New Eng.*, 821 F.2d at 846-47.

162. *Id.* at 848.

163. *Id.* at 856-57.

164. *Id.* at 847.

165. See *supra* note 122 and accompanying text.

166. *Bank of New Eng.*, 821 F.2d at 856 (“It is irrelevant whether employees administering one component of an operation know the specific activities of employees administering another aspect of the operation.” (citing *United States v. T.I.M.E.-D.C., Inc.*, 381 F. Supp. 730, 738 (W.D. Va. 1974))); see *T.I.M.E.-D.C., Inc.*, 381 F. Supp. at 738 (“[A] corporation cannot plead innocence by asserting that the information obtained by several employees was not acquired by any one individual employee who then would have comprehended its full import. Rather, the corporation is considered to have acquired the collective knowledge of its

Courts need something such as the collective knowledge doctrine to address the shortcomings of respondeat superior. However, most circuits are unfriendly to the doctrine, and few, if any, scholars accept it without qualification.¹⁶⁷ The central concern seems to be that the doctrine treats knowledge as a species of negligence, holding corporations liable not for their knowledge, but for failing to maintain open channels of communication between employees.¹⁶⁸ As two scholars put it, “[T]he end result is that *Bank of New England* allows corporations to be prosecuted for criminal acts committed negligently or recklessly by its employees.”¹⁶⁹

Courts and scholars are right to be skeptical of collective knowledge. However, because they have overlooked the doctrine’s informational logic, they have yet to fully appreciate why. The problem is not simply that the doctrine allows courts to piece together items of knowledge from distant employees. The problem is that knowledge can be pieced together in different ways, and not all ways contribute equally to the goals of corporate criminal justice. Only once we recognize and distinguish the options can we have a chance of shoring up collective knowledge to capture its benefits without its excesses.

The range of possibilities for combining items of knowledge is exhibited in a subtle difference between how courts formulate the collective knowledge doctrine and how they apply it. As formulated, the collective knowledge doctrine only allows courts to aggregate knowledge for attribution to corporations.¹⁷⁰ Mere aggregation should do little to expand the scope of corporate liability. Under the collective knowledge doctrine, if some employee knows A, another knows B, and a third knows C, then their corporate employer knows A, B, C, and nothing further.¹⁷¹ To be more concrete, consider an adapted version of *Bank of New England*. Suppose that a bank teller

employees and is held responsible for their failure to act accordingly.”).

167. See Preet Bharara, *Corporations Cry Uncle and Their Employees Cry Foul: Rethinking Prosecutorial Pressure on Corporate Defendants*, 44 AM. CRIM. L. REV. 53, 64 (2007) (“The collective knowledge doctrine has also received significant attention in the literature, much of it negative.”).

168. See Hagemann & Grinstein, *supra* note 35, at 239.

169. Martin J. Weinstein & Patricia Bennett Ball, *Criminal Law’s Greatest Mystery Thriller: Corporate Guilt Through Collective Knowledge*, 29 NEW ENG. L. REV. 65, 82 (1994).

170. See *Bank of New Eng.*, 821 F.2d at 855-56.

171. See *id.* at 856.

at one branch knows (A) that a customer withdrew \$5500 from him. Suppose that another bank teller at a different branch of the same bank knows (B) that a customer, who happens to be the same customer, withdrew \$5500 from her. And finally, suppose that a third bank employee knows (C) that any cash transactions totaling over \$10,000 must be reported to the federal government. If none of the employees knows what the others know, can we conclude using the collective knowledge doctrine that the bank knows it must file a report?

The answer is clearly negative if we adhere strictly to the statement of the doctrine. To be liable under the Currency Transaction Reporting Act, the bank would have to know that some customer's transactions exceeded the reporting threshold.¹⁷² Clearly, no employee knows that. So, respondeat superior by itself would not establish that the bank had the relevant knowledge.¹⁷³ But the collective knowledge doctrine cannot get the bank there either. A chain of reasoning from aggregate knowledge to the relevant fact is necessary. It is like the example with which the Article began: someone may know how much money she has been given on three separate occasions, but not yet know how much she has in total. From knowing A, and knowing B, and knowing C, the bank could, with some elementary logic, come to know the conjunction of them all, "A and B and C." With some mathematical reasoning, the bank could then add \$5500 to \$5500 and check to see whether the result is greater than \$10,000. That the bank had a reporting obligation may *follow inferentially* from the three things the employees knew, but it is a distinct item of knowledge.

Nonetheless, the *Bank of New England* Court determined that the purposes of corporate criminal law called for holding the bank liable and affirmed the bank's conviction.¹⁷⁴ In doing so, the court surreptitiously (or, more likely, unwittingly) applied a much more permissive version of the collective knowledge doctrine than the one it had stated.¹⁷⁵ The court aggregated the knowledge of the employees and then attributed all that knowledge *and all relevant*

172. See 31 U.S.C. § 5322 (2012).

173. See *supra* text accompanying note 122.

174. 821 F.2d at 857.

175. See *id.* at 856.

inferences from it to the bank.¹⁷⁶ Applying this permissive version of the collective knowledge doctrine, the court concluded that the bank knew that it was required to file a report.¹⁷⁷

The permissive collective knowledge doctrine makes some intuitive sense. We do frequently think knowing some proposition entails knowing some propositions inferable from it. If someone knows she is holding a square, we assume she knows that what she is holding is not a circle. If someone knows she has a work call at 1 p.m. and a dentist appointment at 1 p.m., we assume she knows she has a conflict. But without some limiting principle, unchecked attribution of inferences runs afoul of a familiar philosophical problem—it treats people as though they are logically omniscient.¹⁷⁸ This is clearly a standard that no person, corporate or natural, can achieve.¹⁷⁹

Like respondeat superior, the collective knowledge doctrine, as applied, lacks the necessary nuance to influence corporate incentives properly. It pushes corporations in just one direction—towards more investment in compliance. Since the doctrine effectively holds corporations liable for everything known by any employee and for inferences from that aggregated knowledge, it strongly incentivizes corporations to keep on top of that information.¹⁸⁰ Collective knowledge pushes corporations toward investment without any recognition that, at some point, investments in compliance become socially wasteful.¹⁸¹ What is more, the collective knowledge doctrine lacks the capacity to recognize how the private and public stakes of corporate compliance vary with corporation size and industry.¹⁸² Such a one-size-fits all approach may sometimes reach the right

176. *See id.* at 856-57.

177. *See id.*

178. Vincent Hendricks & John Symons, *Epistemic Logic*, in THE STANFORD ENCYCLOPEDIA OF PHILOSOPHY (Edward N. Zalta ed., 2015), <https://plato.stanford.edu/entries/logic-epistemic/> [<https://perma.cc/FE9C-EXXW>].

179. *See id.*

180. *See* Bharara, *supra* note 167, at 64-65.

181. *See* Daniel R. Fischel & Alan O. Sykes, *Corporate Crime*, 25 J. LEGAL STUD. 319, 341 (1996) (arguing that the imposition of criminal liability on corporations lacking the necessary mens rea will force corporations to overinvest in precautions and forgo beneficial activities); Hagemann & Grinstein, *supra* note 35, at 242-43 (arguing that collective knowledge could mean that “corporations with a desire to follow the law would have to implement massive and unwieldy preventative measures to ensure as much”).

182. *See* Hagemann & Grinstein, *supra* note 35, at 242-43.

result, but, given the wide variety of corporations, it must necessarily stray from the efficient point more often than not.

The collective knowledge doctrine also undermines corporate criminal law's retributive goals. Retribution requires making intuitive sense of Congress's choice to define some crimes in terms of knowledge and to pair those crimes with appropriate penalties.¹⁸³ Treating defendants as though they know all the inferences of all the things they know is deeply counterintuitive and inconsistent with commonly accepted perspectives on knowledge.¹⁸⁴ It risks equating mere oversight with knowledge. This treats knowledge-based crimes as requiring less than knowledge, something more along the lines of negligence, or sometimes even strict liability.¹⁸⁵ In so doing, the collective knowledge doctrine routinely punishes corporations more than any intuitive reading of what Congress deemed just.¹⁸⁶

III. EVALUATIVE FRAMEWORK

In order to argue that the coming proposal is better than current doctrine, this Article needs an evaluative framework. The basic values of corporate criminal law are familiar from the general part of criminal law.¹⁸⁷ Retribution¹⁸⁸ and deterrence,¹⁸⁹ which I touched

183. See *infra* Part III.B.

184. See Hendricks & Symons, *supra* note 178. But see PLATO, FIVE DIALOGUES: EUTHYPHRO, APOLOGY, CRITO, MENO, PHAEDO 58 (G.M.A. Grube trans., 2d ed. 2002).

185. Hagemann & Grinstein, *supra* note 35, at 242-43.

186. See *id.* at 243.

187. See Miriam H. Baer, *Organizational Liability and the Tension Between Corporate and Criminal Law*, 19 J.L. & POL'Y 1, 2 (2010) ("[Corporate criminal law is t]he legal equivalent of one-stop shopping, it promises consequential, retributive and expressive benefits, all at the same time.")

188. See Friedman, *supra* note 53, at 843 ("Criminal liability in turn expresses the community's condemnation of the wrongdoer's conduct by emphasizing the standards for appropriate behavior—that is, the standards by which persons and goods properly should be valued."); Regina A. Robson, *Crime and Punishment: Rehabilitating Retribution as a Justification for Organizational Criminal Liability*, 47 AM. BUS. L.J. 109, 124 (2010) ("[R]etribution views punishment as an affirmation of intrinsic values essential to a civil society."); Andrew Weissmann & David Newman, *Rethinking Criminal Corporate Liability*, 82 IND. L.J. 411, 429 (2007) ("The corporation that transgresses that boundary can be as subject to retribution as an individual.")

189. See Darryl K. Brown, *Street Crime, Corporate Crime, and the Contingency of Criminal Liability*, 149 U. PA. L. REV. 1295, 1325 (2001) ("Corporate criminal law ... operates firmly in

upon in the previous Part, tend to dominate the discussion, though rehabilitation¹⁹⁰ and incapacitation¹⁹¹ have started to make some inroads. Prosecutors¹⁹² enforcing corporate criminal law and judges sentencing corporations¹⁹³ also acknowledge the importance of these goals. The difficulty with using them for objective evaluative purposes is that there is no agreement about which to prioritize. This can be a serious problem for policy discussions since the goals can pull in different directions.¹⁹⁴ Deterrence theorists tend to think the notion of corporate desert is incoherent,¹⁹⁵ so the law should focus instead on cost-benefit calculations.¹⁹⁶ Retributivists think cost-benefit calculations often let corporations escape their just deserts¹⁹⁷ and fail to send criminal law's distinctively condemnatory

a deterrence mode.”); *see, e.g.*, Khanna, *supra* note 65, at 1479 (embracing deterrence theory for corporate crime).

190. *See, e.g.*, Diamantis, *supra* note 31, at 509 (embracing a rehabilitation theory of corporate punishment).

191. Incapacitation is often overlooked as a legitimate goal of corporate criminal law. But as W. Robert Thomas argues, it should be part of the discussion. *See* W. Robert Thomas, *Incapacitating Criminal Corporations*, 72 VAND. L. REV. 905 (2019).

192. *See* U.S. DEP'T OF JUSTICE, *supra* note 18, § 9-28.200 (“Prosecutors should ensure that the general purposes of the criminal law—appropriate punishment for the defendant, deterrence of further criminal conduct by the defendant, deterrence of criminal conduct by others, protection of the public from dangerous and fraudulent conduct, rehabilitation, and restitution for victims—are adequately met, taking into account the special nature of the corporate ‘person.’”).

193. *See* U.S. SENTENCING GUIDELINES MANUAL ch. 8, introductory cmt. (U.S. SENTENCING COMM'N 2018) (“This chapter is designed so that the sanctions imposed upon organizations and their agents, taken together, will provide just punishment, adequate deterrence, and incentives for organizations to maintain internal mechanisms for preventing, detecting, and reporting criminal conduct.”).

194. *See* Henry M. Hart, Jr., *The Aims of the Criminal Law*, 23 LAW & CONTEMP. PROBS. 401, 401 (1958) (“Examination of the purposes commonly suggested for the criminal law will show that each of them is complex and that none may be thought of as wholly excluding the others.”); Dan M. Kahan & Martha C. Nussbaum, *Two Conceptions of Emotion in Criminal Law*, 96 COLUM. L. REV. 269, 350 (1996) (“The idea that a single normative theory does or should determine the shape of all criminal doctrines is exceedingly implausible.”).

195. *See* Alschuler, *supra* note 39, at 1392 (“[A]ttributing blame to a corporation is no more sensible than attributing blame to a dagger, a fountain pen, a Chevrolet, or any other instrumentality of crime.”).

196. *See* Khanna, *supra* note 65, at 1478-79.

197. William S. Laufer, *Corporate Liability, Risk Shifting, and the Paradox of Compliance*, 52 VAND. L. REV. 1343, 1350 (1999) (“Many corporations simply purchase only the amount of compliance necessary to effectively shift liability away from the firm. After risk of liability and loss is transferred, the firm’s incentive to maintain high levels of care decreases.”).

message.¹⁹⁸ Rehabilitation theorists think that deterrence and retribution both end up unnecessarily burdening innocent corporate stakeholders¹⁹⁹ and favor a more constructive approach.²⁰⁰

This Article tries to sidestep the controversy over corporate criminal law's basic purpose by speaking to as many discussants as possible within space constraints. It therefore focuses on, without endorsing, both deterrence and retribution, leaving aside rehabilitation and incapacitation, with apologies to theorists who favor those purposes. This Part explores the implications that doctrines of corporate knowledge have for deterrence and retribution in criminal law. The initial discussion is at a high level and involves a number of simplifications. But the abstract framework this Part builds is enough to show that both deterrence and retribution theorists should be deeply dissatisfied with current doctrines of corporate knowledge. It also sets the stage for showing that the functional approach proposed below is a win for both theories. This sort of overlapping consensus holds the best chance of building the momentum needed for real movement forward.²⁰¹ If there is one unifying note in corporate criminal law, it is the chorus for change.²⁰²

198. See Hart, *supra* note 194, at 404 (“What distinguishes a criminal from a civil sanction and all that distinguishes it ... is the judgment of community condemnation which accompanies and justifies its imposition.”); Dan M. Kahan, *Social Meaning and the Economic Analysis of Crime*, 27 J. LEGAL STUD. 609, 618-19 (1998) (“Just as crimes by natural persons denigrate societal values, so do corporate crimes. Members of the public show that they feel this way, for example, when they complain that corporations put profits ahead of the interests of workers, consumers, or the environment. Punishing corporations, just like punishing natural persons, is also understood to be the right way for society to repudiate the false valuations that their crimes express. Criminal liability ‘sends the message’ that people matter more than profits and reaffirms the value of those who were sacrificed to ‘corporate greed.’” (footnotes omitted)).

199. See Alschuler, *supra* note 39, at 1367 (“This punishment is inflicted instead on human beings whose guilt remains unproven. Innocent shareholders pay the fines, and innocent employees, creditors, customers, and communities sometimes feel the pinch too.”).

200. See Diamantis, *supra* note 31, at 509, 514-16.

201. See generally Amy Gutmann & Dennis Thompson, *The Mindsets of Political Compromise*, 8 PERSP. ON POL. 1125, 1125-43 (2010).

202. See, e.g., William S. Laufer, *Corporate Bodies and Guilty Minds*, 43 EMORY L.J. 647, 649 (1994) (“Liability rules for corporate actors in federal law are nearly a century old and remain in an elementary and unsatisfactory form.”).

A. Optimal Deterrence

Most discussions of “[c]orporate criminal law ... operate[] firmly in a deterrence mode.”²⁰³ Even when deterrence-focused scholars occasionally seem to tip their hats to alternate purposes, they usually translate these other purposes into terms that fit the cost-benefit calculus of the deterrence framework.²⁰⁴ Deterrence theory views criminal law in economic terms, as a tool to ensure that the expected private costs of crime outweigh the expected private benefits.²⁰⁵ From this perspective, punishment imposes a private cost for criminal conduct.²⁰⁶ The expected private cost of punishment is equal to the size of the sanction multiplied by the probability that the sanction will be applied, that is, the probability of detection and conviction.²⁰⁷ Rational utility maximizers will be deterred from crime when the expected costs exceed expected criminal gains.²⁰⁸

There are two ways to tailor the expected private costs of punishment in order to achieve optimal deterrence: by adjusting the size of the sanction or by adjusting the probability that it will be applied.²⁰⁹ This Article takes the road less traveled by focusing on the

203. Brown, *supra* note 189, at 1325; see Kyron Huigens, *Street Crime, Corporate Crime, and Theories of Punishment: A Response to Brown*, 37 WAKE FOREST L. REV. 1, 7 (2002) (“[T]he discussion of white collar crime is carried out in terms of deterrence.”).

204. See Buell, *supra* note 118, at 500-12 (arguing that the reputational effects of criminal convictions have unique deterrent effects on corporate behavior). *But see* Diamantis, *supra* note 31, at 509-16; Amy J. Sepinwall, *Guilty By Proxy: Expanding the Boundaries of Responsibility in the Face of Corporate Crime*, 63 HASTINGS L.J. 411, 413-20 (2012).

205. Cindy R. Alexander & Mark A. Cohen, *The Causes of Corporate Crime: An Economic Perspective*, in PROSECUTORS IN THE BOARDROOM, *supra* note 30, at 11 (“The threat of sanction is central to the deterrence of corporate crime.”).

206. *Id.* at 14-15 (“Within this rational-choice ‘deterrence’ framework, individuals weigh the costs and benefits of crime-related activity against the expected sanction to maximize their private utility under the constraints of the organization in which they find themselves.”).

207. *Id.* at 20-21 (“Detection and sanctions are substitutes in the production of deterrence.... An enforcement authority can thus compensate for a tight budget (and thus lower rate of detection) by aggressively seeking higher sanctions without significant loss of general deterrence in this framework.”).

208. *Id.* at 14 (“[T]he lens of an economic model in which corporate crime is the outcome of decisions of utility-maximizing individuals who have the ability to incur criminal liability on behalf of the corporation.”).

209. See Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169, 193, 207 (1968) (arguing that an individual will choose whether to commit a crime based upon both the form and severity of the punishment, as well as the likelihood that the individual will be caught and convicted).

latter. Most scholars in corporate criminal law primarily attend to the size of the sanction as a low-cost way to modify corporate incentives.²¹⁰ To adjust the size of the sanction, the law just needs to cross out one number and write a larger one.²¹¹ Many scholars seem to have the perception that adjusting the *probability* that a sanction will be applied requires expensive investments in enforcement resources,²¹² but the law can also cheaply adjust the probability that a sanction will be imposed by tailoring the liability standard. The claim here is not that the best approach would be to fix liability standards rather than adjust sanctions. Rather, it is that a two-pronged approach stands the best chance of success, and liability standards for attributing culpable knowledge have been mostly overlooked.

As a guiding purpose of criminal liability, deterrence has special appeal for corporate defendants. Unlike many other frameworks for thinking about corporate punishment, such as retribution²¹³ or virtue ethics,²¹⁴ it is fairly straightforward to see at first pass how deterrence can apply to entities such as corporations.²¹⁵ We typically

210. See Richard A. Posner, *An Economic Theory of the Criminal Law*, 85 COLUM. L. REV. 1193, 1205-14 (1985) (discussing the behavior which should be deterred by the criminal law, and the sanctions to be applied to that behavior); Paul H. Robinson & John M. Darley, *The Role of Deterrence in the Formulation of Criminal Law Rules: At Its Worst When Doing Its Best*, 91 GEO. L.J. 949, 951 (2003) (arguing against deterrence theory based upon skepticism regarding the law's "ability to deter crime through the manipulation of criminal law rules and penalties").

211. See Posner, *supra* note 210, at 1206-07.

212. See, e.g., Becker, *supra* note 209, at 193-94 (arguing that an increase in the severity of a fine does not require the public to pay for additional enforcement).

213. See Buell, *supra* note 118, at 475 ("Criminal law scholars have doubted the doctrine's theoretical soundness, pointing to illogic in retribution toward objects and the impossibility of fitting liberal concepts about responsibility with nonhuman actors. Entity criminal liability, these arguments go, is a purely imputed form of fault that has little or nothing to do with blameworthiness. And the doctrine is concerned with the fault of something without free will or character—that is, an apparition with 'no soul to be damned and no body to be kicked.'").

214. See Matthew Caulfield & William S. Laufer, *The Promise of Corporate Character Theory*, 103 IOWA L. REV. ONLINE 101, 115-19 (2018), <https://ilr.law.uiowa.edu/online/volume-103/the-promise-of-corporate-character-theory/> [<https://perma.cc/HA95-JVXT>].

215. At a second pass, the picture is much more complicated. Corporations are run by individuals whose incentives are not necessarily aligned with their corporate employers. See Alexander & Cohen, *supra* note 205, at 14 (examining causes of corporate crime "through the lens of an economic model in which corporate crime is the outcome of decisions by rational utility-maximizing individuals who have the ability to incur criminal liability on behalf of the corporation"). This is the perennial problem of agency costs. See Cindy R. Alexander & Mark A. Cohen, *Why Do Corporations Become Criminals? Ownership, Hidden Actions, and Crime*

assume that corporations respond in rational ways to economic considerations, and that assumption is all deterrence theory needs to get going.²¹⁶ There may even be reason to think deterrence works better for corporate actors than for individuals.²¹⁷ People are frequently subject to irrational drives that are relatively insensitive to economic calculus.²¹⁸ Corporations do not suffer impulses, passions, hormonal imbalances, or drunkenness.²¹⁹ Although their human constituents are influenced by emotion, corporations have procedures, checks, and balances that should filter these out in the ordinary course of business.²²⁰

Another important feature of corporations' decision-making structure (and another disanalogy to the case of natural individuals) is that they are malleable in response to the right incentives. While people cannot reorganize their psychology, corporations can.²²¹ This is something legal policymakers bank on.²²² Judges and prosecutors

as an Agency Cost, 5 J. CORP. FIN. 1, 4 (1999). There are ways to mitigate agency costs, and I have written about some of them. See Diamantis, *supra* note 28, at 514-16. But that discussion can only take place once we have a sense of how incentives operate at the corporate level. It is at this level that the argument here proceeds.

216. See Alexander & Cohen, *supra* note 205, at 17 ("Instead of focusing on individual actions, we can consider crime as the outcome of company-level decisions.")

217. See Harvey M. Silets & Susan E. Brenner, *The Demise of Rehabilitation: Sentencing Reform and the Sanctioning of Organizational Criminality*, 13 AM. J. CRIM. L. 329, 367 (1986) ("The corporation is a rational actor striving to maximize financial gain and minimize financial loss, and so can be manipulated most easily by imposing monetary penalties that affect these acts." (footnotes omitted)). For various reasons having to do with corporate governance and structure, I and others have noted that this is likely an idealization. See, e.g., Diamantis, *supra* note 31, at 525-27 (noting that corporations could respond to government incentives by concealing rather than complying); *id.* at 565-68 (describing how corporate fines fail to target the right individuals); Note, *Structural Crime and Institutional Rehabilitation: A New Approach to Corporate Sentencing*, 89 YALE L.J. 353, 354-55 (1979). Future work on corporate knowledge should complicate the picture by accounting for how reality departs from this ideal or providing mechanisms for bringing reality closer into line with it.

218. Robinson & Darley, *supra* note 210, at 955 ("[T]here is a host of conditions that interfere with the rational calculation of self-interest by potential offenders: drug or alcohol use, personality types inclined toward impulsiveness and toward discounting consequences, and social influences such as the arousal effect of group action and the tendency of group members to calculate risk in terms of group rather than individual interests.")

219. See Silets & Brenner, *supra* note 217, at 355 ("[I]ndividuals commit crimes of passion, whereas corporations do not.")

220. See Meir Dan-Cohen, *Sanctioning Corporations*, 19 J.L. & POL'Y 15, 24-29 (2010) (discussing the "practical personality" of corporations).

221. See Diamantis, *supra* note 31, at 538-39.

222. See *id.*

already give corporations reasons to be proactive about compliance.²²³ The Organizational Sentencing Guidelines offer corporations sentencing reductions if they have “effective compliance and ethics program[s].”²²⁴ Corporations also know that their commitment to compliance can play an important role in how favorably prosecutors exercise their charging discretion.²²⁵ If criminal law gives corporations incentives to know or not to know something (e.g., by making such knowledge an element of a crime), they will find any available way to adapt—by implementing new policies and procedures, replacing or retraining employees, and reorganizing their corporate structure.²²⁶ The equivalent adaptations for individuals would require a reordering that is biologically and psychologically impossible.²²⁷

Most deterrence theorists working on corporate crime are not out to deter all crime at all costs; rather, they aim for *optimal* deterrence.²²⁸ One straightforward way to disincentivize all crime forcefully would be to impose the maximum sanction in all cases.²²⁹ This, however, would be suboptimal in part because it would lead to socially wasteful over-deterrence; it would punish criminals more

223. *See id.*

224. U.S. SENTENCING GUIDELINES MANUAL § 8B2.1 (U.S. SENTENCING COMM’N 2018).

225. *See generally* BRANDON L. GARRETT, *TOO BIG TO JAIL: HOW PROSECUTORS COMPROMISE WITH CORPORATIONS* (2014) (discussing prosecutorial discretion, deferred prosecution agreements, and the role of structural reform in both). Department of Justice’s *Principles of Federal Prosecution of Business Organizations* explicitly direct line prosecutors to consider “the adequacy and effectiveness of the corporation’s compliance program at the time of the offense” when “determining whether to bring charges” against corporate suspects. U.S. DEP’T OF JUSTICE, JUSTICE MANUAL § 9-28.300 (2018), <https://www.justice.gov/usam/usam-9-28000-principles-federal-prosecution-business-organizations> [<https://perma.cc/RHW9-XTK2>].

226. *See Brown, supra* note 189, at 1338.

227. *See generally* WILLIAM P. ALSTON, *EPISTEMIC JUSTIFICATION: ESSAYS IN THE THEORY OF KNOWLEDGE* (1989) (discussing the involuntariness of belief formation for individuals).

228. PAUL ROBINSON ET AL., *CRIMINAL LAW: CASE STUDIES AND CONTROVERSIES* 81 (2017) (“Punishment imposes costs on the state as well as on the person punished; accordingly, the punishment should be set just high enough to maximize deterrence (or, more precisely, to achieve the efficient rate of deterrence, where the net benefit of crime prevention relative to its cost is highest), but no higher.”).

229. *See id.* (“It may seem as if a deterrence-based scheme would frequently impose the harshest sentence allowed, to maximize the potential cost of committing a crime and thereby discourage would-be offenders as much as possible. Yet if an offender thinks he is already subject to the maximum punishment (if he is caught), then it becomes almost impossible to deter any further criminal activity on his part.”).

than needed to deter them²³⁰ and would spill over to chill socially beneficial activities.²³¹ The law optimizes its deterrent purposes and promotes material social welfare only if the harms that punishment prevents outweigh the social costs it imposes.²³² The goal of optimal deterrence is to increase the private costs of crime just enough to align private incentives with the socially optimal level of such activities.²³³

At first, talk of socially optimal levels of crime can sound paradoxical. Is the socially optimal level of crime not zero? While civil law often aims at efficient levels of breach—as in contracts²³⁴ or torts²³⁵—the whole point of criminal law is to prohibit categorically.²³⁶ Yet there are social costs associated with getting crime down to zero. A polity could, for example, reduce the incidence of

230. See Becker, *supra* note 209, at 209 (“[O]ptimal policies to combat illegal behavior are part of an optimal allocation of resources.”).

231. See Richard A. Bierschbach & Alex Stien, *Overenforcement*, 93 GEO. L.J. 1743, 1748-49 (2005) (“Consider a situation in which the optimal sanction for deterring a certain type of conduct (representing the total harm that society wants to avoid) equals x , the average spillover addition to the sanction for such conduct equals y , and a rational individual is contemplating a course of action that falls within the sphere of conduct at issue. This individual will take the contemplated action if its expected benefit to him or her (b) is greater than $x + y$. From a classic social utility standpoint, the individual should take the action whenever $b > x$. In any such case, the aggregate social welfare would be greater than it was before. The individual, however, will not take the action when $x < b < x + y$, which implies that y —the spillover addition to the optimal sanction—is generally detrimental to society.”).

232. *Id.*

233. *See id.*

234. Robert L. Birmingham, *Breach of Contract, Damage Measures, and Economic Efficiency*, 24 RUTGERS L. REV. 273, 284 (1970) (“Repudiation of obligations should be encouraged where the promisor is able to profit from his default after placing his promisee in as good a position as he would have occupied had performance been rendered.”). For an illustration of efficient breach doctrine, see Richard A. Posner, *ECONOMIC ANALYSIS OF LAW* 151 (8th ed. 2011).

235. The Hand Formula states that, in a negligence action, a defendant meets the standard of care when the burden of avoiding an injury is greater than the loss which would result from that injury multiplied by the probability that the injury will come to pass. *United States v. Carroll Towing Co.*, 159 F.2d 169, 173 (2d Cir. 1947).

236. See John C. Coffee, Jr., *Does “Unlawful” Mean “Criminal”? Reflections on the Disappearing Tort/Crime Distinction in American Law*, 71 B.U. L. REV. 193, 193-94 (1991); Duncan Kennedy, *Form and Substance in Private Law Adjudication*, 89 HARV. L. REV. 1685, 1691 (1976) (“In this dimension, we place at one pole legal institutions whose purpose is to prevent people from engaging in particular activities because those activities are morally wrong or otherwise flatly undesirable. Most of the law of crimes fits this pattern: laws against murder aim to eliminate murder. At the other pole are legal institutions whose stated object is to facilitate private ordering.”).

drunken driving by prohibiting cars; yet, the social costs of doing so would be extraordinary. Optimal deterrence theorists seek to strike a balance between the costs of prevention and the costs of whatever misconduct will escape prevention.²³⁷ By dialing up one side of the equation, the law can dial down the other until they are in equipoise.

The stakes for getting these incentives right for corporate actors range between the massive social benefits and potential harms characteristic of corporate activity. Corporations were originally created²³⁸ and continue to be justified²³⁹ by the fact that they are the central engines of economic and material gain. Corporations now account for two-thirds of total business revenue in the United States.²⁴⁰ Innovation in the corporate form is widely credited with the United States' economic ascendance in the twentieth century.²⁴¹ Policies that chill how corporations pursue business advantage impact whether and how quickly corporations can create these material advances.²⁴²

Despite their welfare-promoting features, corporations can also create costs of all sorts—economic,²⁴³ environmental,²⁴⁴ public

237. See Peter N. Salib, *Why Prison?: An Economic Critique*, 22 BERKELEY J. CRIM. L. 111, 120 (2017) (“Optimal deterrence does not simply mean setting the penalties correctly to deter each particular crime. Rather, the *system* of deterrence must be coherent, minimizing the *overall* social losses from bad actions. As such, optimally deterrent penalties cannot be calculated narrowly, considering only the expected value of a single crime. They must consider how to best penalize the whole range of bad acts in which a bad actor might engage. The penalties for less-harmful bad acts should be lower than those for the most serious ones.”).

238. Giuseppe Dari-Mattiacci et al., *The Emergence of the Corporate Form*, 33 J.L. ECON. & ORG. 193, 194 (2017) (“The corporate form was originally established for public bodies and public utilities, such as a municipality or a monastery.”).

239. See Rosabeth Moss Kanter, *How Great Companies Think Differently*, 89 HARV. BUS. REV. 66, 68 (2011) (“Institutional logic holds that companies are more than instruments for generating money; they are also vehicles for accomplishing societal purposes and for providing meaningful livelihoods for those who work in them.”).

240. See Andrew Lundeen & Kyle Pomerleau, *Corporations Make Up 5 Percent of Businesses but Earn 62 Percent of Revenues*, TAX FOUND. (Nov. 25, 2014), <https://taxfoundation.org/corporations-make-5-percent-businesses-earn-62-percent-revenues/> [<https://perma.cc/N8SR-DBFW>].

241. See, e.g., JOHN MICKLETHWAIT & ADRIAN WOOLDRIDGE, *THE COMPANY* 103 (2003).

242. See David Ahlstrom, *Innovation and Growth: How Business Contributes to Society*, 24 ACAD. MGMT. PERSP. 11, 13-21 (2010) (arguing that disruptive innovation by economic actors is necessary for economic growth).

243. See, e.g., Gina-Gail S. Fletcher, *Benchmark Regulation*, 102 IOWA L. REV. 1929, 1932 (2017) (“Upon uncovering the LIBOR manipulation scheme, regulators worldwide fined all

health,²⁴⁵ dignity,²⁴⁶ etc. Because of corporations' place of privilege as the driving force in our economy, those costs can be staggering.²⁴⁷ Even some of the staunchest advocates of free-market economics concede that limits must be placed on corporations' pursuit of profit if it is ultimately to benefit, rather than harm, society.²⁴⁸

participating banks approximately \$14 billion in total—a pittance compared to the illicit profits earned throughout the life of the manipulation scheme. The LIBOR manipulation scandal was expansive, impacting trillions of dollars of financial contracts—but, frighteningly, it typifies benchmark manipulation.”).

244. See Hope M. Babcock, *Corporate Environmental Social Responsibility: Corporate “Greenwashing” or a Corporate Culture Game Changer?*, 21 FORDHAM ENVTL. L. REV. 1, 8 (2010) (“For many large firms, penalties are merely a cost of doing business, particularly if the penalty does not recapture for the public the benefits that inured to the company from violating the law.”).

245. See Nicholas Freudenberg & Sandro Galea, *The Impact of Corporate Practices on Health: Implications for Health Policy*, 29 J. PUB. HEALTH POL’Y 86, 86 (2008) (“Recently, policy makers, the media, advocates, and the public have called attention to the impact of corporate activities on health and disease in the United States. High-profile cases that have galvanized public discourse include the tobacco settlement that was designed to provide compensation to states for tobacco-related illness, wide-spread debate over the responsibility of the food and beverage industry for the current epidemic of obesity, and discussions about drug company profits and harmful product side effects.”).

246. See Richard C. Chen, Note, *Organizational Irrationality and Corporate Human Rights Violations*, 122 HARV. L. REV. 1931, 1931 (2009) (“Today, individual corporations can wield as much power and influence as entire nations. Unfortunately, that influence is not necessarily wielded for good, as corporations have been implicated in a broad range of human rights abuses.” (footnote omitted)).

247. See Sara Sun Beale, *A Response to the Critics of Corporate Criminal Liability*, 46 AM. CRIM. L. REV. 1481, 1483 (2009) (“Modern corporations not only wield virtually unprecedented power, but they do so in a fashion that often causes serious harm to both individuals and to society as a whole.”).

248. See Miranda Perry Fleischer & Daniel Hemel, *Atlas Nods: The Libertarian Case for a Basic Income*, 2017 WIS. L. REV. 1189, 1221 (“Although classical liberals—like minimal state libertarians—oppose large scale welfare programs and reject much current governmental regulation, they admit that in some instances the government can engage in activities beyond acting as a night watchman, such as providing public goods, prohibiting monopolies, and reducing negative externalities.” (citing RICHARD A. EPSTEIN, SKEPTICISM AND FREEDOM: A MODERN CASE FOR CLASSICAL LIBERALISM 1-12 (2003))); Christian Leuz, *We Need Smarter Regulation, Not More*, FORBES (Feb. 9, 2009), https://www.forbes.com/2009/02/09/dynamic-financial-regulation-opinions-contributors_0209_christian_leuz.html [<https://perma.cc/S6XG-4X3S>] (“Financial regulation imposes significant costs on the economy.... In fact, current calls for regulation come at the same time that market discipline is back in full force and more regulatory scrutiny could exacerbate the downturn. Thus, what we need to prevent future crises is a more dynamic approach to regulation and oversight—one that is strong precisely when market forces become weak.”). *But see* THOMAS SOWELL, BASIC ECONOMICS: A CITIZEN’S GUIDE TO THE ECONOMY 95 (2000).

The central task for optimal deterrence theorists working on corporate crime is to find the socially optimal level of corporate investment in compliance (crime prevention) and then to use criminal sanctions to incentivize corporations to invest at that level.²⁴⁹ They, therefore, need a model for comparing the costs and benefits, both public and private, of the alternative liability regimes. So far, as doctrines of corporate knowledge are concerned, there are two main costs to bear in mind. The first, already mentioned, is the massive costs of corporate misconduct.²⁵⁰ Some white-collar crimes, such as securities fraud, involve illegitimate transfers of wealth that may not immediately create net social losses (\$5 is \$5, regardless of whose pocket it is in), but they undermine mechanisms that are essential to an efficient market economy.²⁵¹ Others, such as environmental or public health violations, create more direct social losses.²⁵² The less knowledge that a doctrine incentivizes corporations to have, the greater the costs of corporate crime. This is because corporations, knowing less about their own operations, will be less able to anticipate and prevent their own misconduct.²⁵³ Furthermore, criminal law will have fewer resources to address and remedy corporate misconduct because corporations lacking knowledge cannot be convicted of and sanctioned for knowledge-based crimes.²⁵⁴

249. See Alschuler, *supra* note 39, at 1360.

250. See Urska Velikonja, *The Cost of Securities Fraud*, 54 WM. & MARY L. REV. 1887, 1894 (2013).

251. *Id.* at 1887 (“In addition to undermining investor confidence, misreporting distorts economic decision making by all firms, both those committing fraud and those not. False information impairs risk assessment by those who provide human or financial capital to fraudulent firms, the firms’ suppliers and customers, and thus misdirects capital and labor to subpar projects.”); I. J. Alexander Dyck, Adair Morse & Luigi Zingales, *How Pervasive is Corporate Fraud?* 1 (Rotman Sch. of Mgmt., Working Paper No. 2222608, 2013) (“Combining this information with cost estimates suggests that in the 1996-2004 period fraud in large corporations destroyed between \$180 and \$360 billion a year.”).

252. See, e.g., Dominic Rushe, *BP Set to Pay Largest Environmental Fine in US History for Gulf Oil Spill*, GUARDIAN (July 2, 2015, 12:36 PM), <https://www.theguardian.com/environment/2015/jul/02/bp-will-pay-largest-environmental-fine-in-us-history-for-gulf-oil-spill> [<https://perma.cc/V5CZ-6HYY>] (“More than five years after the disaster, environmentalists and Gulf residents are still counting the cost. Fatalities among dolphins and other marine life have surged in the spill’s aftermath.”).

253. See Luban, *supra* note 94, at 963.

254. See *id.*

The second cost that an efficient doctrine of corporate knowledge should seek to minimize is what I will broadly call the “costs of compliance.” In order to know things relevant to potential misconduct, corporations must acquire and process information using internal compliance mechanisms.²⁵⁵ Compliance programs are not cheap.²⁵⁶ The amount of money corporations spend annually to design and implement compliance mechanisms has ballooned in recent years.²⁵⁷ The number of private corporate compliance officers is on pace to overtake the number of municipal police in some large jurisdictions.²⁵⁸ These figures—which do not include the opportunity costs of diverting cash from productive uses to compliance—underrepresent the true cost of compliance.²⁵⁹ Corporate scholars, even those not generally friendly to corporate interests, are starting to sound the alarm.²⁶⁰

It is important to resist the urge to press corporations to spend whatever it takes to prevent as much misconduct as possible. No compliance program is failproof.²⁶¹ No matter how much corporations spend on compliance, they cannot monitor their employees perfectly²⁶² and some misconduct will pass under the radar.²⁶³ As such, there is always room for improvement and no limit to the

255. Jennifer Arlen & Reinier Kraakman, *Controlling Corporate Misconduct: An Analysis of Corporate Liability Regimes*, 72 N.Y.U. L. REV. 687, 693 (1997).

256. Lucy McNulty, *Compliance Costs to More Than Double by 2022*, FIN. NEWS LONDON (April 27, 2017, 3:15 PM), <https://www.fnlondon.com/articles/compliance-costs-to-more-than-double-by-2022-survey-finds-20170427> [<https://perma.cc/U78Y-9XTX>].

257. *Id.* (“The survey found that firms typically spend 4% of their total revenue on compliance, but that could rise to 10% by 2022, with around nine out of ten of those polled stating that regulatory reforms were increasing their compliance costs.”).

258. See Laufer, *supra* note 18, at 392.

259. See *id.*

260. See *id.*

261. Henry L. Tosi et al., *The Separation of Ownership and Control: Increasing the Responsiveness of Boards of Directors to Shareholders' Interests?*, 4 U. FLA. J.L. & PUB. POL'Y 39, 46 (1991).

262. See Armen A. Alchian & Harold Demsetz, *Production, Information Costs and Economic Organization*, 62 AM. ECON. REV. 777, 782 (1972); Michael C. Jensen & William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. FIN. ECON. 305, 313 (1976); Tosi et al., *supra* note 261, at 46 (“[E]ven if the principle is willing to incur agency costs of monitoring, it may still be difficult to effectively control agents.”).

263. See Irwin Schwartz, *Toward Improving the Law and Policy of Corporate Criminal Liability and Sanctions*, 51 AM. CRIM. L. REV. 99, 112 (2014) (“No organization—private or government—can prevent all misconduct by all employees, all of the time.”).

amount corporations could invest in compliance for some marginal reduction in the risk of misconduct.²⁶⁴ It is too easy to discount the costs of compliance as private costs borne by faceless corporate fictions. Because of corporations' economic role and the porous line between corporations and the investing public, these costs can have detrimental social effects.²⁶⁵ At some point, corporate costs ripple beyond the faceless corporation to the broader public: 401k holders, job-seekers, consumers, etc.²⁶⁶

Optimal deterrence requires balancing the costs of crime and the costs of compliance. The important thing to pay attention to is not the absolute values of the two costs, but the dynamic relationship between them. As compliance expenditures increase, assuming they are effectively spent,²⁶⁷ the expected costs of crime should decrease.²⁶⁸ So long as a marginal increase in compliance expenditures creates a larger marginal reduction in the expected costs of crime, the costs are efficient from an optimal deterrence perspective.²⁶⁹ But there are diminishing marginal returns from compliance expenditures.²⁷⁰ In other words, after a point, an additional dollar spent on compliance will reduce the expected costs of crime by less than a

264. See Fischel & Sykes, *supra* note 181, at 324.

265. See Alschuler, *supra* note 39, at 1367.

266. See *id.*

267. As William Laufer persuasively argues, this is a disputable assumption. WILLIAM S. LAUFER, CORPORATE BODIES AND GUILTY MINDS 103-04 (2006) (arguing that prosecutors lack guidelines for measuring whether a compliance program is effective, and therefore lack any guidance regarding whether a corporation effectively spends on compliance). But, as I argue elsewhere, there are things the law could be doing to make sure corporations are spending compliance money more effectively. See Mihailis E. Diamantis, *Looking Glass: A Reply to Caulfield and Laufer*, 103 IOWA L. REV. ONLINE 147, 152 (2019), <https://ilr.law.uiowa.edu/assets/Uploads/ILROnline103-Hasnas.pdf> [<https://perma.cc/MB44-TSE2>].

268. See Fischel & Sykes, *supra* note 181, at 329.

269. See *id.*

270. Geoffrey P. Miller, *An Economic Analysis of Effective Compliance Programs*, in RESEARCH HANDBOOK ON CORPORATE CRIME AND FINANCIAL MISDEALING 254-55 (Jennifer Arlen ed., 2018) (explaining that a firm's probability of avoiding penalty increases with each dollar it spends on compliance, but at a decreasing rate per each additional dollar).

dollar.²⁷¹ Further investment in compliance would be, beyond that point, socially wasteful.²⁷²

There is a socially optimal level for corporations to invest in compliance, and that level is less than everything.²⁷³ Social welfare would benefit from a doctrine of corporate knowledge that could induce corporations to invest closer to that optimal level.²⁷⁴ It is easy to see that current doctrines of corporate knowledge must stray far from the mark.²⁷⁵ Something more flexible, like the coming proposal, could bring the law closer to it.

The way doctrines of knowledge can help induce corporations to strike the right balance between the costs of compliance and the costs of crime is to alter their private incentives to acquire compliance-relevant knowledge or to remain ignorant of it. The interplay between the relevant incentives is not straightforward—as explained above, knowledge is a mixed proposition for corporations.²⁷⁶ The private benefit of corporate knowledge is easy to anticipate. The more corporations know about the activities of their employees, the better they can intervene when there is a risk of misconduct.²⁷⁷ This helps corporations limit their future criminal liabilities by reducing the probability that they commit crimes.²⁷⁸

271. See Fischel & Sykes, *supra* note 181, at 324 (“It is plainly undesirable for firms to invest infinite resources to prevent their agents’ parties from committing crimes, even if those crimes themselves are clearly unproductive. Rather, monitoring is desirable, as a first approximation, up to the point at which the marginal cost would exceed the marginal social gain in the form of reduced social harm from criminal activity.”).

272. *Id.*

273. See Coffee, *supra* note 236, at 196 (“Once it is conceded that some level of monitoring could be excessive, then the cost to the corporation must be compared to the benefit to society.” (footnote omitted)).

274. See Alschuler, *supra* note 39, at 1367.

275. See, e.g., Joe Mont, *Ex-Wells Fargo CEO Slams ‘Absurd’ Compliance Spending*, COMPLIANCE WK. (May 29, 2015), <http://www.complianceweek.com/blogs/the-filing-cabinet/ex-wells-fargo-ceo-slams-absurd-compliance-spending> [<https://perma.cc/MD6B-D3KH>]; Rushe, *supra* note 252.

276. See *supra* notes 26-32 and accompanying text. This paper focuses on the incentives that doctrines of corporate criminal law give corporations. These doctrines are doctored and tailored, sometimes for better and sometimes for worse, by various actors in the legal system, most notably prosecutors and judges. See *supra* notes 210-11 and accompanying text. A more nuanced model would account for these interventions too, but I think they are safe to ignore for present purposes. An efficient doctrine is better than an inefficient one that legal actors may make efficient through case-by-case, ad hoc uses of discretion.

277. See Luban, *supra* note 94, at 959.

278. See Fischel & Sykes, *supra* note 181, at 324.

But there are significant private costs too.²⁷⁹ The compliance costs of implementing and running mechanisms to gather and process information are the most obvious.²⁸⁰ Perhaps less obvious, but no less significant, is the potential *increase* in criminal liability for corporations when they know more.²⁸¹ For knowledge-based crimes, the more a corporation knows, the more vulnerable it is when misconduct occurs.²⁸² Identical conduct can be criminal or not, depending on how much the corporation knew.²⁸³

Optimal deterrence theorists will want to incentivize corporations to gather information at the socially optimal level.²⁸⁴ This is where legal doctrines for attributing knowledge to corporations can have a role. By defining knowledge more expansively or less expansively, to include more or fewer types of information, the law can affect corporate incentives to know that information.²⁸⁵ If the law treats corporations as though they know some information, then corporations anxious to manage their liabilities will have strong incentives to gather and process that information.²⁸⁶ They are on the hook for it anyway since it may satisfy the mens rea element of a crime.²⁸⁷ If the law does not treat corporations as knowing some information, corporations will have correspondingly weaker incentives to gather and process it.²⁸⁸ By tweaking the boundary between what the law considers knowledge and mere information, the law can push corporate incentives toward the optimal point.²⁸⁹

279. Mont, *supra* note 275.

280. See Fischel & Sykes, *supra* note 181, at 324.

281. See Luban, *supra* note 94, at 959.

282. See Coffee, *supra* note 236, at 230.

283. See *id.* at 213.

284. See Alschuler, *supra* note 39, at 1360 (“A judge’s goal in punishing a corporation should be to induce a level of monitoring that will prevent more criminal harm than the monitoring will cost.”).

285. See Luban, *supra* note 94, at 959.

286. Just how big the incentive is depends on the probability of detection by authorities and the size of the sanction. Arlen & Kraakman, *supra* note 255, at 703 (“The firm, in an effort to choose the level of prevention that minimizes its own total costs, will select the level that minimizes total social costs as well. The sanction which achieves this aim is the same as that which induces optimal activity levels, i.e., the social cost of wrongdoing divided by its probability of detection.” (footnote omitted)).

287. See Coffee, *supra* note 236, at 198.

288. See Luban, *supra* note 94, at 959.

289. See Hamdani & Klement, *supra* note 139, at 291 (“From the firm’s perspective, investment in compliance is valuable only to the extent that it reduces expected liability

As framed here, optimal deterrence can give a powerful critical perspective. Optimal deterrence shows we should be skeptical of simplistic doctrines of knowledge that push corporations in just one direction or another—toward more knowledge (like the collective knowledge doctrine) or more ignorance (like respondeat superior). The socially optimal point is a balance between the costs of compliance and the costs of crime.²⁹⁰ Getting corporations to invest at that point requires a new doctrine capable of dynamically altering corporations' incentives to know information or to remain ignorant of it.

Optimal deterrence also suggests that we should be skeptical of one-size-fits-all knowledge doctrines, such as both respondeat superior and the collective knowledge doctrine. While we lack detailed numbers on the costs of compliance and criminal liability that corporations face, those numbers vary dramatically from one corporation to the next.²⁹¹ Corporations range in size from small mom-and-pop operations to familiar corporate giants such as Walmart and Amazon.²⁹² Compliance and information management systems are quite different mechanisms for different sized organizations,²⁹³ involving wide-ranging real and proportional costs.²⁹⁴ Corporate risks and compliance needs also vary by industry.²⁹⁵ Some

costs.”).

290. See Fischel & Sykes, *supra* note 181, at 324.

291. John Schneider, *Finding Your Cost-of-Compliance Sweet Spot*, STRATEGIC FIN., Aug. 2007, at 30.

292. *Biggest Employers*, FORTUNE 500, <http://fortune.com/fortune500/list/filtered?sortBy=employees&first500> [<https://perma.cc/RFU4-R2EA>].

293. Schneider, *supra* note 291, at 30 (“An important first step is to acknowledge that the cost of compliance is an ingredient of a broader effort for a governance and risk management infrastructure to protect the company’s reputation. Each industry is slightly different and, therefore, comes with a unique set of economic decisions that will factor into determining how much is enough.”).

294. William Dunkelberg, *The Hidden Costs of Regulations*, FORBES (July 12, 2016, 3:02 PM), <https://www.forbes.com/sites/williamdunkelberg/2016/07/12/the-cost-of-regulations/> [<https://perma.cc/ETR8-XUJZ>] (“The negative impact of these regulatory burdens varies significantly by firm size. Regulations do not have the same economic impact on large and small firms, the latter being less well-staffed and resourced to deal with the regulatory avalanche. For example, it is estimated that compliance with EPA regulations cost four times as much per employee for small firms as for large ones.”).

295. Sean J. Griffith, *Corporate Governance in an Era of Compliance*, 57 WM. & MARY L. REV. 2075, 2099-2101 (2016) (“Having mapped the common core of compliance, the question of how companies operationalize the basic structure remains. This is where differences emerge among firms, especially among firms in different industry categories. For example, firms in some industries—most notably financial services, pharmaceuticals, and defense/

industries, such as the energy sector, involve notoriously high risk of criminal misconduct; others, such as education, have fewer compliance needs.²⁹⁶ Doctrines that are invariant across industry and size will inevitably fail to produce satisfactory results in the majority of cases.

B. Retribution

Deterrence may be most scholars' favorite framing purpose for corporate criminal law, but retributivism arguably plays a greater political and social role. Retributivists generally think that the justifying purpose of criminal law is to give criminals what they deserve.²⁹⁷ Accordingly, justice requires the punishment of wrongdoers²⁹⁸ in proportion to the severity of their crimes.²⁹⁹ Retributive sentiments toward corporate criminals are plain in the popular press and fuel public pressure on political actors to respond in kind.³⁰⁰

There is no way to talk seriously about retributive appropriateness for corporate criminals without wading into deep theoretical controversy. This is not the place to rehash the competing varieties of retributivism and their relative merits in corporate criminal law. I have previously argued that the best way to think about desert for

aerospace—are often seen as having more highly developed compliance functions.”).

296. PONEMON INSTITUTE, *THE TRUE COST OF COMPLIANCE: A BENCHMARK STUDY OF MULTINATIONAL ORGANIZATIONS* 3 (2011), https://www.ponemon.org/local/upload/file/True_Cost_of_Compliance_Report_copy.pdf [<https://perma.cc/5XWD-A468>].

297. See IMMANUEL KANT, *METAPHYSICAL ELEMENTS OF JUSTICE* 138 (John Ladd trans., 2nd ed. 1999).

298. IMMANUEL KANT, *THE METAPHYSICS OF MORALS* 140 (Mary Gregor trans., 1991); IMMANUEL KANT, *THE PHILOSOPHY OF LAW* 196 (W. Hastie trans., 1887) (“[T]he undeserved evil which anyone commits on another, is to be regarded as perpetrated on himself.”); see Michael S. Moore, *The Moral Worth of Retribution*, in *RESPONSIBILITY, CHARACTER, AND THE EMOTIONS* 179 (F. Schoeman ed., 1987) (“*Retributivism* is the view that punishment is justified by the moral culpability of those who receive it.”).

299. Michael S. Moore, *More on Act and Crime*, 142 U. PA. L. REV 1749, 1751 (1994) (“Such purposes are themselves subservient to the overarching purpose of criminal punishment, which is retributive: people should be punished because of (and only in proportion to) their moral deserts.”).

300. See Baer, *supra* note 64, at 612 (“The public has increasingly registered greater moral outrage in response to corporate governance scandals. Moral outrage, in turn, fuels retributive motivations and therefore supports those institutions best poised to take advantage of such motivations.”).

corporations is along the lines Paul Robinson proposes more generally for criminal law: that liability standards should be keyed to folk intuitions about justice and condemnation.³⁰¹ In a pluralistic, democratic polity, I believe it is hard to motivate any other retributive approach.³⁰²

Cognitive scientists and psychologists know how people ordinarily think about corporate culpability. The public “perc[eives] that corporations are ‘alive,’ and can act, through their agents, in specific ways.”³⁰³ People commonly speak of corporations “as ‘real’ entities in ordinary language and in moral discourse.”³⁰⁴ Even the most cursory review of how we talk about corporations reveals that we widely treat them to the whole array of reactive attitudes we reserve for anyone capable of having guilty knowledge.³⁰⁵ Recall the recent and continuing Volkswagen (VW) scandal. The news was filled with reporting about whether VW knew about the emissions defeat devices,³⁰⁶ or whether, as VW initially alleged, some rogue engineers implanted the devices and hid the scheme from the company.³⁰⁷ The carmaker’s liability in the public eye and in the eyes of the law turned on that question.³⁰⁸

301. See Diamantis, *supra* note 11, at 2052-53. See generally ROBINSON, *supra* note 54 (describing the “care” of wrongdoing).

302. See W. Robert Thomas, *Criminal Law and Corporate Moral Agency: A View from Political Philosophy*, 17 GEO. J.L. & PUB. POL’Y (forthcoming 2019).

303. Friedman, *supra* note 53, at 847.

304. Eric Colvin, *Corporate Personality and Criminal Liability*, 6 CRIM. L. F. 1, 24 (1995).

305. See Joshua Knobe & Jesse Prinz, *Intuitions About Consciousness: Experimental Studies*, 7 PHENOMENOLOGY & COGNITIVE SCI. 67, 73-74 (2008) (using data from Google searches of ordinary language to establish this point).

306. Ashlee Kieler, *Report: Volkswagen Knew of Defeat Devices Eight Years Before EPA Action*, CONSUMERIST (Sept. 28, 2015), <https://consumerist.com/2015/09/28/report-volkswagen-knew-of-defeat-devices-eight-years-before-epa-action/> [<https://perma.cc/CEJ5-E2GV>]; Rob Stumpf, *Volkswagen CEO Reportedly Knew of Diesel Cheating Months Before It Became Public*, DRIVE (Aug. 25, 2017), <http://www.thedrive.com/sheetmetal/13814/volkswagen-ceo-reportedly-knew-of-diesel-cheating-months-before-it-became-public> [<https://perma.cc/UF3P-QSZ5>].

307. Jim Puzzanghera & Jerry Hirsch, *VW Exec Blames “A Couple of Rogue Engineers” for Emissions Scandal*, L.A. TIMES (Oct. 8, 2015, 7:32 PM), <http://www.latimes.com/business/autos/la-fi-hy-vw-hearing-20151009-story.html> [<https://perma.cc/5E3S-KBVE>].

308. In its plea deal, Volkswagen admitted to knowingly entering a conspiracy, knowingly obstructing justice, and knowingly using false statements to enter goods into U.S. commerce. See *Volkswagen AG Agrees to Plead Guilty and Pay \$4.3 Billion in Criminal and Civil Penalties; Six Volkswagen Executives and Employees Are Indicted in Connection with Conspiracy to Cheat U.S. Emissions Tests*, DEP’T OF JUSTICE (Jan. 11, 2017), <https://www>.

Our intuitive disposition to treat corporations as though they are entities, capable of culpably knowing things, seems to be a hard-wired feature of our psychology. Cognitive scientists have recently begun studying the phenomenon. When groups exhibit high levels of coherence, as do most corporations,³⁰⁹ humans come to conceive of them as possessing many of the attributes traditionally associated with individuals.³¹⁰ Cognitive scientists and social psychologists call this cohesive property of groups “entitativity,” which they define as being “a unified and coherent whole in which the members are tightly bound together” by, for example, a collective goal such as profitmaking.³¹¹ The shift in conception of sufficiently cohesive groups happens at a fundamental level in cognition.³¹² Research indicates that the human mind represents such groups as unified entities, rather than as collections of individuals.³¹³ Our propensity to treat corporations as we treat other epistemic subjects is tied to the role that entitative groups play in our mental economy.³¹⁴ Not only does the entitativity of corporations make “blame

justice.gov/opa/pr/volkswagen-ag-agrees-plead-guilty-and-pay-43-billion-criminal-and-civil-penalties-six [https://perma.cc/R4FA-BW3T].

309. See Brian Lickel et al., *Varieties of Groups and the Perception of Group Entitativity*, 78 J. PERSONALITY & SOC. PSYCHOL. 223, 229 (2000); Steven J. Sherman & Elise J. Percy, *The Psychology of Collective Responsibility: When and Why Collective Entities Are Likely to Be Held Responsible for the Misdeeds of Individual Members*, 19 J.L. & POL'Y 137, 150 (2010). See generally Brian Lickel et al., *Intuitive Theories of Group Types and Relational Principles*, 42 J. EXPERIMENTAL SOC. PSYCHOL. 28 (2006) (discussing features of groups that incline people to see them as entitative and capable of bearing collective responsibility).

310. See David L. Hamilton & Steven J. Sherman, *Perceiving Persons and Groups*, 103 PSYCHOL. REV. 336, 337-41 (1996); Sherman & Percy, *supra* note 309, at 139-40, 149.

311. Sherman & Percy, *supra* note 309, at 149-50; see Donald T. Campbell, *Common Fate, Similarity, and Other Indices of the Status of Aggregates of Persons as Social Entities*, 3 BEHAV. SCI. 14, 17 (1958); Lloyd Sandelands & Lynda St. Clair, *Toward an Empirical Concept of Group*, 23 J. THEORY SOC. BEHAV. 423, 453 (1993) (providing “evidence for the existence of groups as entities”). See generally THE PSYCHOLOGY OF GROUP PERCEPTION: PERCEIVED VARIABILITY, ENTITATIVITY, AND ESSENTIALISM (Vincent Yzerbyt et al. eds., 2003).

312. See Amy L. Johnson & Sarah Queller, *The Mental Representations of High and Low Entitativity Groups*, 21 SOC. COGNITION 101, 105-06 (2003) (providing evidence of a basic shift in cognition toward groups with high versus low entitativity); Nadzeya Svirydzenka, *Group Entitativity and Its Perceptual Antecedents in Varieties of Groups: A Developmental Perspective*, 40 EUR. J. SOC. PSYCHOL. 611, 615 (2010) (demonstrating that children also make assessments about group entitativity).

313. See Marilyn B. Brewer & Amy S. Harasty, *Seeing Groups as Entities: The Role of Perceiver Motivation*, in 3 HANDBOOK OF MOTIVATION AND COGNITION 347, 353 (Richard M. Sorrentino & E. Tory Higgins eds., 1996); Sherman & Percy, *supra* note 309, at 152.

314. See Sherman & Percy, *supra* note 309, at 152.

and punishment [of them] ... psychologically sensible and sustainable,³¹⁵ but it strongly inclines us to treat them that way.³¹⁶ We are psychologically committed to a criminal law that treats corporations like individuals.

Since there is less corporate scholarship on retribution than deterrence,³¹⁷ I will have correspondingly less to say by way of ground setting beyond these observations about the psychology of corporate blame. I will not question whether retributivism for corporate criminals is theoretically defensible. Rather, I will meet retributivists on their own grounds and show how competing doctrines of corporate knowledge can promote or hinder retributivism's goals. Attributions of corporate knowledge can do this by mirroring or conflicting with widespread intuitions about corporate justice and desert.³¹⁸ I argue below that the approach to corporate knowledge I propose does this better than current doctrine. *Respondeat superior* allows corporations to escape liability even when they do things that are plainly wrong.³¹⁹ And the collective knowledge doctrine risks treating corporations as though they are logically omniscient.³²⁰ Both current doctrines stray from common intuition.

If doctrines of corporate knowledge are going to facilitate criminal law's retributive goals, they must make sense of corporate knowledge as a species of *knowledge*. This means the doctrine should

315. *Id.* at 156; see Thomas F. Denson et al., *The Roles of Entitativity and Essentiality in Judgments of Collective Responsibility*, 9 GROUP PROCESSES & INTERGROUP REL. 43, 55-56 (2006); Anna-Kaisa Newheiser et al., *Why Do We Punish Groups? High Entitativity Promotes Moral Suspicion*, 48 J. EXPERIMENTAL SOC. PSYCHOL. 931, 931-32 (2012) (arguing that people are naturally inclined to blame entitative groups for wrongdoing).

316. See Koichi Hioki & Minoru Karasawa, *Effects of Group Entitativity on the Judgment of Collective Intentionality and Responsibility*, 81 JAPANESE J. PSYCHOL. 9 (2010) (finding that people are more likely to attribute intentionality and criminal responsibility to groups with high entitativity).

317. Though they are relatively few in number, there are some scholars who have undertaken the project of spelling out a notion of corporate desert. See, e.g., KIP SCHLEGEL, *JUST DESERTS FOR CORPORATE CRIMINALS* 3-5 (1990); Jennifer Moore, *Corporate Culpability Under the Federal Sentencing Guidelines*, 34 ARIZ. L. REV. 743, 797 (1992).

318. See generally ROBINSON, *supra* note 54; Paul H. Robinson & John M. Darley, *Intuitions of Justice: Implications for Criminal Law and Justice Policy*, 81 S. CAL. L. REV. 1, 8 (2007) (“[W]e are suggesting that the belief that serious wrongdoing should be punished and the culturally shared judgments of the relative blameworthiness of different acts of wrongdoing are commonly intuitive rather than reasoned judgments.”).

319. See *supra* Part II.A.

320. See *supra* Part II.B.

roughly align with ordinary intuitions about when groups know things. It also means that whatever it qualifies as knowledge should have the same normative salience that knowledge does when it serves as the mens rea element of a crime. Mens rea grades the seriousness of crimes and the appropriate punitive response.³²¹ For example, crimes that require culpable knowledge are more serious than crimes that only require recklessness or negligence, and less serious than those that require purpose.³²² As a consequence, the law generally punishes knowledge-based crimes more severely than the former, but less severely than the latter.³²³ As argued in the previous Part, the law is presently stuck misconstruing corporate knowledge standards as more demanding (*respondeat superior*) or less demanding (collective knowledge) than it should. As such, the law distorts Congress's efforts (such as they are) to pair crimes with punishments that are retributively appropriate.

IV. A FUNCTIONAL ACCOUNT OF CORPORATE KNOWLEDGE

The two available doctrines for attributing knowledge to corporations fall short of achieving optimal deterrence and retributive justice, but for opposite reasons. *Respondeat superior* overly restricts what counts as corporate knowledge.³²⁴ It thereby incentivizes corporations to let important information lay uncollected and unprocessed, and allows them to escape just punishment.³²⁵ The collective knowledge doctrine responds to these critical failings of *respondeat superior*, but goes too far by treating too much as knowledge.³²⁶ It thereby incentivizes corporations to invest in

321. Robinson & Grall, *supra* note 87, at 689-90.

322. MODEL PENAL CODE § 2.02 explanatory note to subsection (10) (AM. LAW INST. 1962) (“Subsection (10) applies when the grade or degree of an offense depends on the culpability with which the offense is committed.... [T]he defendant’s level of culpability should be measured by an examination of his mental state with respect to all elements of the offense. Thus, if the defendant purposely kills but does so in the negligent belief that it is necessary in order to save his own life, his degree of liability should be measured by assimilating him to one who is negligent rather than to one who acts purposely.”).

323. *Id.* § 2.02(10).

324. *See supra* Part II.A.

325. *See supra* Part II.A.

326. *See supra* Part II.B.

compliance at socially wasteful levels and unjustly punishes them.³²⁷ Neither doctrine has the nuance to strike a balance between knowledge and mere information or to recognize that the balance may vary with basic features of the corporation whose knowledge is at issue. What we need is a Goldilocks solution, a way to draw a line between the over- and under-permissiveness of current law. The solution should also be a functional account, that is to say, one that allows the line to shift as a function of relevant characteristics of the corporate defendant and of the sort of information at issue.

Between them, respondeat superior and the collective knowledge doctrine can offer a basis for constructing an improved approach to corporate knowledge attribution. They answer the metaphysical question of where to look for corporate knowledge—in the knowledge of employees, whether singly or collectively.³²⁸ In order for collective knowledge to add much to respondeat superior, it has to allow judges to attribute not only actual knowledge states of employees, but also inferences from those states. That is how judges in fact use the doctrine.³²⁹ However, as applied, the doctrine does not build in any limits about how many and what kinds of inferences to attribute. Attributing them all, as I argued, subverts optimal deterrence and retribution. Using some smaller subset of inferences could strike a happy balance.

The basic problem could be stated in terms of what logicians call “inferential distance,” or how logically remote an inference is from a set of epistemic states.³³⁰ One way to characterize inferential distance is objectively in terms of the number of logical steps it takes to get from some premises to a conclusion. Solving $x = 2 + 3$ requires fewer steps than solving $4x = x^5 + 3x^3$, so the inferential distance for the latter would be greater on this objective account. The problem for the objective account is that it fails to make room for the significant subjective aspect to inferential distance. The remoteness of an inference depends not only on the inference itself, but also on the expertise and other capacities of the reasoner.

327. See *supra* Part II.B.

328. See *supra* Part II.A.

329. See *supra* Part II.B.

330. See Duncan A. Sabien, *Idea Inoculation + Inferential Distance*, MEDIUM (July 27, 2018), <https://medium.com/@ThingMaker/idea-inoculation-inferential-distance-848836a07a5b> [<https://perma.cc/W8KZ-ZH5W>].

Solving $x = 2 + 3$ is simple for most adults, and probably involves just one step. But to a six-year-old, it is a complex process, involving fingers and counting and recounting. Solving $4x = x^5 + 3x^3$ would be a long process for most people, but quite facile for many mathematicians. The subjective characterization of inferential distance builds in these individualizing considerations. It has the sort of case-by-case adaptability that the functional account of corporate knowledge needs. Subjective inferential distance is a function of two variables: how effortful the inference is for the individual and how obvious. I discuss these in detail below.

Cast in terms of inferential distance, the crucial questions for moving forward on corporate knowledge are: When is an inference “near” enough to the aggregate knowledge of corporate employees such that it would make criminal-justice sense to attribute the inference to the corporation?³³¹ And when is it too “distant”? The line should include enough inferences to account for cases where liability would promote optimal deterrence and retribution, but it should exclude inferences when liability would net social disutility or would be unjust.

A. Insights from Collective Epistemology

One natural place to start looking for a suitable theory of corporate knowledge is social epistemology, that is the study of knowledge in groups. Social epistemologists have yet to consider the specific question of inferential distance for groups, and they tend to focus on groups much smaller than the modern business corporation.³³² However, they have staked out some foundational positions on group knowledge that could help get the analysis started.³³³

331. I have Paul Gowder to thank for this helpful recasting of the problem.

332. Collective epistemologists also do not adequately distinguish, as respondeat superior does, between the different “roles” individuals play, as members of the group and as individuals with lives outside the group. While all individual employees of a corporation may know/believe that Russia tampered with the 2016 U.S. election, they know/believe this only in their individual roles, not in their work capacity. The law would deem it improper, and I agree, to conclude that the employer corporation knew/believed the same.

333. In a recent article, Jennifer Lackey offered a taxonomy of positions in collective epistemology. I take my framework from her. See Jennifer Lackey, *What Is Justified Group Belief?*, 125 PHIL. REV. 341, 342-43 (2016).

Views in collective epistemology can be divided roughly into deflationary accounts and inflationary accounts. Deflationary accounts, of which there are a few varieties,³³⁴ have some resemblance to *respondeat superior*. According to them, a group's knowledge of some fact is to be understood in terms of some subset of the members of the group knowing the same fact.³³⁵ However, whereas under *respondeat superior* knowledge by just one member is sufficient, most deflationary social epistemologists call for something more demanding. For example, Jennifer Lackey's recent "group epistemic agent account" requires that "[a] significant percentage" of its members know a fact in order for a group to know it.³³⁶ So long as that percentage must be above zero, it is too high for present purposes. Deflationary accounts would only exacerbate the shortcomings of *respondeat superior*. In *Bank of New England*, even if some employee knew that the currency reports needed filing, the bank would still not count as knowing on Lackey's account unless enough other employees also knew it.³³⁷

A suitable account of corporate knowledge must instead be some form of inflationary account.³³⁸ According to this approach, a group may know some propositions over and above those the individuals in the group know.³³⁹ Frederick Schmitt offers a version of the most widely accepted inflationary account.³⁴⁰ In Schmitt's theory, a group can know some proposition that none of its members knows if that proposition is justified by a reason that all of the group's members

334. See Fabrizio Cariani, *Judgment Aggregation*, 6 PHIL. COMPASS 22, 22-24 (2011); Christian List & Philip Pettit, *Aggregating Sets of Judgments: An Impossibility Result*, 18 ECON. & PHIL. 89, 89-91 (2002); Christian List, *Group Knowledge and Group Rationality: A Judgment Aggregation Perspective*, 2 EPISTEME 25, 25, 27 (2005).

335. See Cariani, *supra* note 334, at 23-24; List & Pettit, *supra* note 334, at 90-92; List, *supra* note 334, at 27.

336. See Lackey, *supra* note 333, at 381.

337. See *United States v. Bank of New Eng.*, 821 F.2d 844, 855-56 (1st Cir. 1987); Lackey, *supra* note 333, at 381.

338. See MARGARET GILBERT, *ON SOCIAL FACTS* 237-314 (1989); Deborah Tollefsen, *Group Testimony*, 21 SOC. EPISTEMOLOGY 299, 301-02, 306, 308 (2007); Deborah Perron Tollefsen, *Wikipedia and the Epistemology of Testimony*, 6 EPISTEME 8, 11-12 (2009).

339. See GILBERT, *supra* note 338, at 306; Tollefsen, *Group Testimony*, *supra* note 338, at 306-08; Tollefsen, *Wikipedia*, *supra* note 338, at 11-12.

340. Frederick F. Schmitt, *Socializing Epistemology: An Introduction Through Two Sample Issues*, in *SOCIALIZING EPISTEMOLOGY: THE SOCIAL DIMENSIONS OF KNOWLEDGE* 1-27 (Frederick F. Schmitt ed., 1994).

would be willing to accept as the group's reason to believe the proposition.³⁴¹ This is a step in the right direction. Schmitt's account, were it developed into a doctrine of corporate knowledge, would move beyond some of the limitations of respondeat superior by treating groups as though they know some facts unknown by any employee—those inferable from reasoning all employees would accept.³⁴²

Yet Schmitt's account does not go far enough. Premising any collective mental state on what every person in a 100,000-member corporation would accept would most likely yield a very small, if not empty, set. In *Bank of New England*, none of the individual members could endorse reasons sufficient to establish that the bank had a reporting obligation; none knew enough to endorse such a reason.³⁴³ None knew that the transactions totaled over \$10,000, and those that knew about the transactions knew nothing about the legal reporting requirements.³⁴⁴ This is a common sort of scenario that arises in complex groups where members play distinct and different roles, e.g., in *Bank of New England*, customer facing roles versus compliance roles.³⁴⁵

The inadequacy of Schmitt's view for corporate knowledge only deepens upon considering that individuals with different corporate roles have varying training and expertise. In many criminal cases, quite sophisticated knowledge is at issue, for example, economic facts in securities fraud or facts of environmental science in emissions cases. It seems counterintuitive to limit corporate knowledge to the lowest common denominator—the most sophisticated economic or environmental reason all employees would endorse. The likely result would be that no large corporations would know any technically sophisticated facts. Such a limitation would allow corporations to insulate themselves from attribution of all but the most primitive inferences by hiring one untrained summer intern.

The problem with Schmitt's inflationary account for current purposes is that it is not yet a functional account. It advances a single

341. See *id.* at 265-66.

342. See *id.*

343. See *United States v. Bank of New Eng.*, 821 F.2d 844, 848 (1st Cir. 1987).

344. *Id.*

345. See *id.* at 856 ("Corporations compartmentalize knowledge, subdividing the elements of specific duties and operations into smaller components.").

test for all knowledge and all corporations.³⁴⁶ A functional account needs different resources that vary with context; these are effort and obviousness.

B. Effort as a Relevant Variable

Effort is a measure of how difficult an inference is to make. It differs from person to person and inference to inference. For individuals, effort in reasoning is a familiar experience. Some problems challenge us, even if we know in advance all the premises from which we could deduce the solution. Challenging problems require time, diagrams, and a blackboard. They may also require psychological and intellectual struggle as we juggle multiple premises and complex chains of reasoning. These are all indicators for how effortful an inference is for a person. Adding two and three requires minimal effort for most people, though it can be more demanding for children and the mentally impaired. The sum at the start of this Article (\$1.61, \$2.37, and \$0.96) requires a bit more: for most adults, a small napkin, a pen, and working through some simple arithmetic. For some savants, these tools would be unnecessary and the sum would come effortlessly to them. Solving $4x = x^5 + 3x^3$ is probably more effortful for everyone: a sheet of paper, more writing, recalling a distant memory of polynomial algebraic rules, and correspondingly more meticulous proof-checking.

A straightforward corporate analogue for effort is easy to come by: cost. Corporations do not experience intellectual struggle³⁴⁷ or have hands to push pens over paper,³⁴⁸ but they can pay people to push and struggle on their behalf. The relevant cost is what I referred to above as the cost of compliance.³⁴⁹ The relative effort required to make an inference could be measured by how much it would cost to

346. See generally Schmitt, *supra* note 340.

347. See Rita C. Manning, *Corporate Responsibility and Corporate Personhood*, 3 J. BUS. ETHICS 77, 80 (1984) (“Corporations do not have emotions.”); Mary Kreiner Ramirez, *The Science Fiction of Corporate Criminal Liability: Containing the Machine Through the Corporate Death Penalty*, 47 ARIZ. L. REV. 933, 938 (2005).

348. See John C. Coffee, Jr., “No Soul to Damn: No Body to Kick”: An Unscandalized Inquiry into the Problem of Corporate Punishment, 79 MICH. L. REV. 386, 386 (1981) (A corporation has “no body” (quoting Lord Chancellor Baron Thurlow)).

349. See *supra* text accompanying notes 255-96.

design, implement, and run a compliance program that would gather the relevant information from personnel and process it in a way that puts a corporate employee in a position to know the inference. The higher that cost, the greater the required effort.

The amount of effort it would take any particular corporation to make any particular inference is specific to each case. To make the inference, a corporation would have to gather and process the relevant information. Information can be more or less cost-intensive to collect. Some types of information may be more dispersed across multiple employees, while other information may be concentrated among a few employees. Some qualitative information may require a lot of labor to gather, while other quantitative information may lend itself to automation. Effort is also something that will vary over time, likely decreasing as compliance technology advances and compliance firms develop solutions for recurring informational needs in particular industries.³⁵⁰

Idiosyncratic properties of specific corporations also impact the effort they must expend for inferences. Larger corporations will likely have more information (effort increasing) to gather and process before making an inference. However, they may also benefit from efficiencies of scale (effort decreasing), with compliance systems that can perform double-duty by tracking and processing different types of information.³⁵¹ A corporation's industry and complexity are important effort-impacting variables too.³⁵² Both affect what sort of information must be gathered and how hard it is to collect. Even much more idiosyncratic features of the corporation can be relevant, such as its previous compliance history and existing compliance infrastructure. A corporation with less sophisticated compliance mechanisms and less experienced compliance personnel will, like a beginning mathematician solving a difficult problem, have to expend more effort to get new compliance programs in place to make inferences.³⁵³

350. Laufer, *supra* note 18, at 396-97 ("With a convergence in next generation machine learning technology, global compliance standards, and even rudimentary evaluation science, longstanding questions about how to monitor, surveil, and measure compliance effectiveness will be addressed in ways that also very efficiently reduce costs.").

351. *See id.*

352. *See* LAUFER, *supra* note 267, at 72, 84-85, 92.

353. *See, e.g.*, Laufer, *supra* note 18, at 393-94 (describing JPMorgan's extensive

C. Obviousness as a Relevant Variable

Unlike effort, which is a fully individualized inquiry, obviousness is more objective. The obviousness of an inference is a matter of whether it is “easily perceived or understood.”³⁵⁴ Obviousness measures how apparent an inference is to a reference class of reasoners. As such, it depends on characteristics of the inference and the capacities of the reference class, but not directly on the characteristics of the individual tasked with making the inference. An inference might not be obvious *to* some particular individual, but nonetheless be obvious *for* her because it is obvious to the reference class. The answer to $2 + 3$ is obvious for any unimpaired adult, even if, for some reason, some particular unimpaired adult is having trouble seeing it. Obviousness is more objective than effort because it has a reference class beyond any single reasoner.

The use of reference classes is familiar from another important concept in criminal law: reasonableness.³⁵⁵ Conduct can be unreasonable even if the particular individual engaging in it disagrees.³⁵⁶ This is because reasonableness depends on what other people find reasonable. The analogy to reasonableness illustrates some important limits on who the relevant reference class includes. What counts as reasonable conduct for a police officer in the field is different from what most ordinary people may find reasonable. Instead, it depends on how other police officers, given their training and background, assess situations and respond.³⁵⁷ Reasonableness

compliance department).

354. *Obvious*, OXFORD ONLINE DICTIONARY, <https://en.oxforddictionaries.com/definition/obvious> [<https://perma.cc/Q8S7-9MSW>] (“Easily perceived or understood; clear, self-evident, or apparent.”).

355. See PAUL H. ROBINSON, INTUITIONS OF JUSTICE AND THE UTILITY OF DESERT 327-34 (2013); Victoria Nourse, *After the Reasonable Man: Getting Over the Subjectivity/Objectivity Question*, 11 NEW CRIM. L. REV. 33, 36 (2008) (“[A] majority of jurisdictions adopt a standard [of reasonableness] that is *both* objective and subjective (a ‘hybrid’ standard).”); Paul H. Robinson, *A Sentencing System for the 21st Century?*, 66 TEX. L. REV. 1, 51-52 (1987).

356. Christopher Jackson, *Reasonable Persons, Reasonable Circumstances*, 50 SAN DIEGO L. REV. 651, 654-55 (2013) (“This ‘objective’ standard [of reasonableness] eschews a purely subjective inquiry; rather than asking what the defendant actually did, it sets out a hypothetical reasonable person and asks, under the circumstances the defendant was faced with, how *she* would act.” (footnote omitted)).

357. See *Terry v. Ohio*, 392 U.S. 1, 27 (1968) (“[I]n determining whether the officer acted reasonably in such circumstances, due weight must be given, not to his inchoate and

for a child can be lower than it is for other people since it depends on how children of a similar age conduct themselves.³⁵⁸ The obviousness of an inference does not depend on whether it is obvious to everyone else. Rather, obviousness depends on whether others in a reference class of *relevantly similar* people would make the same inference.

Consequently, the obviousness of an inference for a corporation depends on two things: the attributes of the corporation that define the reference class and what portion of corporations in that reference class would make the inference. As to the first, some promising suggestions are available. The Sentencing Guidelines offer a conception of “effective compliance”³⁵⁹ that looks in part to the compliance programs of corporations that are a similar “size” and in the same “industry.”³⁶⁰ William Laufer’s “constructive model”³⁶¹ of corporate mental states would add “complexity, functionality, and structure” as pertinent variables.³⁶² One could supplement the list further, as appropriate, with reference to things such as geographic location, company age, history of misconduct, etc.³⁶³

With the reference class in hand, the obviousness inquiry turns to the performance of peer corporations in the class. Supposing a corporation has employees who know some facts, the question of whether an inference from those facts is obvious becomes: do corporations in the reference class have informational mechanisms in place that, if their employees knew similar facts, would put an employee in a position to know the inference? The answer to this question gives a sense of whether peer corporations have the sorts

unparticularized suspicion or ‘hunch,’ but to the specific reasonable inferences which he is entitled to draw from the facts in light of his experience.”).

358. RESTATEMENT (SECOND) OF TORTS § 283A (AM. LAW INST. 1965) (“If the actor is a child, the standard of conduct to which he must conform to avoid being negligent is that of a reasonable person of like age, intelligence, and experience under like circumstances.”).

359. U.S. SENTENCING GUIDELINES MANUAL § 8B2.1 (U.S. SENTENCING COMM’N 2018).

360. *Id.* § 8B2.1 cmt. 2(A).

361. Laufer, *supra* note 202, at 651.

362. *Id.* at 701; *see also* Diane Vaughan, *Toward Understanding Unlawful Organizational Behavior*, 80 MICH. L. REV. 1377, 1388-96 (1982).

363. I have elsewhere questioned whether Laufer’s approach could serve as a general theory of corporate mens rea, as he intends it to be. *See* Diamantis, *supra* note 11, at 2069-71. For characterizing obviousness, however, something like Laufer’s approach could work well. The question of inferential obviousness does not need a grand theory of corporate mens rea. Obviousness ultimately turns on what individual employees would be in a position to know.

of compliance programs needed to make the inference at issue. The greater proportion of peer corporations that do, the more obvious the inference.

D. Summary of the Account

The functional account is now simple to state: corporations know anything any of their employees know, within the scope of their employment, and everything that is inferable, but not too distant, from what employees know. The root issue is whether an inference from knowledge held by employees is too distant to hold a corporation liable for knowing it. By giving an account of inferential distance for corporations, the functional account developed here has more sophisticated tools for striking a balance between the all or nothing approaches of current law. The defining features and concepts of the account are as follows:

Inference: Drawing on the knowledge attribution mechanism of respondeat superior, a corporation makes an inference from some facts when there is an employee who, within the scope of her employment, knows the inferred conclusion.³⁶⁴

Inferential Distance: The distance of an inference for a corporation depends on two variables: effort and obviousness. Greater effort increases inferential distance. Greater obviousness decreases inferential distance.³⁶⁵

Effort: The effort it would take for a particular corporation to make a particular inference is measured by the cost of designing, implementing, and running information systems that would allow the corporation to make that inference.³⁶⁶

Obviousness: The obviousness of an inference for a corporation depends on the proportion of corporate peers who have information systems in place capable of making a relevantly similar inference.³⁶⁷

364. *See supra* Part IV.

365. *See supra* Part IV.

366. *See supra* Part IV.B.

367. *See supra* Part IV.C.

Attributing Knowledge of Inferences: A corporation should be held to know an inference (even if it claims no employee actually knew it) when, and only when, the inferential distance is not too great.³⁶⁸

The logical structure of the functional account—balancing individualizing (effort) and generalizing (obviousness) factors—is familiar throughout the law. Generally speaking, a “subjective standard’ connotes that [a person’s] conduct is judged with reference alone to his qualities[, and] an ‘objective standard’ [connotes that] legal consequences follow without regard to them.”³⁶⁹ Under this terminology, effort is a purely “subjective” standard, depending only on features of the individual corporation whose knowledge is at issue. Obviousness is an “objective” standard since it turns on what a reference class of corporations would infer, rather than what the individual corporation did infer. A balance of subjective and objective considerations is characteristic of the pervasive reasonableness standard in torts,³⁷⁰ contracts,³⁷¹ search and seizure,³⁷² and ineffective assistance.³⁷³

Yet the functional account for corporate knowledge should be firmly distinguished as more demanding than a mere reasonableness standard. To see how and why, it is important to notice that the functional account offers a standard rather than a rule

368. See *supra* Part IV.

369. Seavey, *supra* note 80, at 4.

370. See RESTATEMENT (SECOND) OF TORTS § 283 cmt. c (AM. LAW INST. 1965) (“The standard which the community demands must be an objective and external one, rather than that of the individual judgment, good or bad, of the particular individual. It must be the same for all persons, since the law can have no favorites; and yet allowance must be made for some of the differences between individuals, the risk apparent to the actor, his capacity to meet it, and the circumstances under which he must act.”).

371. See Clare Dalton, *An Essay in the Deconstruction of Contract Doctrine*, 94 YALE L.J. 997, 1033 (1985) (“[T]he *Restatement* [(*Second*) of *Contracts*] actually straddles the subjective-objective divide [in its handling of contracts made under threat].”).

372. See *United States v. Diaz*, 503 F.2d 1025, 1026 (3d Cir. 1974) (“‘Real suspicion’ justifying the initiation of a strip search is subjective suspicion supported by objective, articulable facts.” (quoting *United States v. Guadalupe-Garza*, 421 F.2d 876, 879 (9th Cir. 1970))).

373. See Gary Goodpaster, *The Trial for Life: Effective Assistance of Counsel in Death Penalty Cases*, 58 N.Y.U. L. REV. 299, 344 (1983) (“The ‘information available’ language is expressly designed to focus a reviewing court’s attention not only on the trial attorney’s subjective state of knowledge, but on the objective issue of what information was reasonably within the capacity of the attorney to obtain.”).

for attributing knowledge to corporations. Effort and obviousness come in degrees. Inferences can be more or less costly and more or less widespread among peers.³⁷⁴ Consequently, they can be more or less effortful and obvious, respectively. As the effort and obviousness thresholds for attributing knowledge are adjusted up or down, so is the demandingness of the standard for attributing knowledge.

In order for the functional account to be an account of knowledge and not of reasonableness, there are boundaries below which the effort and obviousness thresholds should not dip. A reasonableness inquiry would ask what an average corporation would have inferred and how much effort an average corporation would have expended.³⁷⁵ But knowledge must be more demanding than reasonableness.³⁷⁶ While reasonableness may be defined in terms of what mere majorities of a reference class would do,³⁷⁷ obviousness allows for only limited disagreement among the reference class. For an inference to be obvious, some significant supermajority of the reference class must have been in a position to make it.³⁷⁸ While reasonableness may ask what inference some modest effort would have uncovered, attributing knowledge of an inference requires relative effortlessness.

As I discuss next, the adjustability of the functional account—that its effort and obviousness thresholds can be dialed up or down—is one of its chief advantages. By balancing “subjective” effort and “objective” obviousness, the law can draw an efficient and retributively appropriate line between which inferences corporations know and which they do not.

374. See *supra* note 330 and accompanying text (discussing the basic problem of “inferential distance”).

375. See discussion *supra* Parts IV.B-C.

376. Warren Seavey made a similar point with respect to individuals. See Seavey, *supra* note 80, at 21 (“Were this otherwise and were persons charged with knowledge of all that which they would have acquired with reasonable effort or average mentality, one who attends a medical college only to find at the end that he has been too lazy or stupid to become a physician, would go through life burdened with a liability based upon the knowledge of the average physician.”).

377. See Heidi M. Hurd, *The Deontology of Negligence*, 76 B.U. L. REV. 249, 269 (1996) (“[R]easonableness is defined by reference to what a statistical majority of persons would do.”).

378. See *supra* Part IV.C (discussing the factors to consider when analyzing obviousness).

V. EVALUATING THE FUNCTIONAL ACCOUNT

Even at first glance, the functional account has the clear upper hand over present doctrine. It strikes a promising middle path between the extremes of respondeat superior and collective knowledge. Because it allows for attribution of some inferences, it addresses the disqualifying limitation of respondeat superior, which does not hold corporations accountable for dispersed knowledge or effortless and obvious inferences therefrom.³⁷⁹ Because it does not allow for the attribution of all inferences, it does not risk treating corporations as though they are logically omniscient, as does the collective knowledge doctrine.³⁸⁰ The functional account therefore holds the prospect of striking a balance between these two doctrinal poles.

A further advantage of the functional account is that it is *functional*. Respondeat superior and the collective knowledge doctrine apply in the same way to all knowledge and all corporations, regardless of important differences among them.³⁸¹ The functional account molds itself to context. As discussed above, inferential distance is a function of effort and obviousness, which in turn depends on features of the corporate defendant, the sort of information at issue, and the practices of corporate peers.³⁸²

To put the functional account into effect, courts would need information on three variables: effort, obviousness, and what inferential distance is “too” far for criminal justice purposes. Expert witnesses should be able to provide testimony about effort and obviousness. There is a robust market for compliance consultants.³⁸³ Experts knowledgeable about the compliance industry could provide data about what sort of compliance program, and at what cost, would put an employee in a position to know the inference at

379. See *supra* Part II.A.

380. See *supra* Part II.B.

381. See *supra* note 136 and accompanying text (“Respondeat superior.... applies the same unflinching conditions in every context.”); *supra* note 180 and accompanying text (“[T]he collective knowledge doctrine ... lacks the necessary nuance.”).

382. See *supra* Part IV.

383. See Fischel & Sykes, *supra* note 181, at 348 (“Corporate compliance programs and related services marketed by lawyers are now a big growth industry. This is not likely to change in the near future.”).

issue.³⁸⁴ Similarly, experts knowledgeable about compliance practices among corporate peers could testify as to how pervasive that sort of compliance program is. The third variable, when an inference is too effortful or too unobvious, is a question of criminal justice for policymakers. I discuss below how policymakers should go about coming to an answer from the perspectives of deterrence and retribution, and how the functional account could serve both goals.³⁸⁵ In what follows, it is important to bear in mind that whatever line is drawn, it should remain appropriate to *knowledge*, rather than some lesser mens rea such as recklessness or negligence.³⁸⁶

A. *Optimal Deterrence*

The functional account has the potential to get closer to optimal deterrence than respondeat superior and collective knowledge. The crucial feature of the functional account for purposes of optimal deterrence is that it is adjustable. Whether any given application of the functional account hits on the socially efficient attribution depends on the three variables: effort, obviousness, and inferential distance. As mentioned above, the government has some power to adjust these variables over time. If the functional account generates inefficient results with respect to any particular type of knowledge, it can be made efficient by tweaking the variables. For example, inferential distance depends in part on industry compliance practice among corporate peers, and this is something the government can influence.

Government authorities have various tools they can use to shift industry compliance norms. Among the more controversial mechanisms, prosecutors can use charging decisions³⁸⁷ and deferred

384. See, e.g., *Codes and Compliance Expert Witnesses*, FORENSISGROUP, <https://www.forensisgroup.com/expert-witness/codes-and-compliance/> [<https://perma.cc/BAM2-7Q8T>].

385. See *infra* Parts V.A-B.

386. See *infra* Parts V.A-B.

387. See Memorandum from Eric Holder, Deputy Att’y Gen., to All Component Heads and U.S. Attorneys (June 16, 1999), <https://www.justice.gov/sites/default/files/criminal-fraud/legacy/2010/04/11/chargingcorps.PDF> [<https://perma.cc/W3J3-DB5V>] (“[C]orporations are likely to take immediate remedial steps when one is indicted for criminal conduct that is pervasive throughout a particular industry, and thus an indictment often provides a unique opportunity for deterrence on a massive scale.”).

prosecution agreements³⁸⁸ to regulate corporate compliance. There are also more palatable tools available that do not rely on the heavy hand of the criminal law. Regulators can shift industry practice through their administrative lawmaking, enforcement decisions, and informal guidance.³⁸⁹ Congress can do the same with a variety of statutory tools such as setting civil liability standards³⁹⁰ or offering tax incentives/penalties.³⁹¹

When industry compliance practices change, so does the obviousness of inferences that the compliance practice implicates. Shifting industry practice should also have peripheral effects on inferential effort. As new compliance technology develops to address particular sets of problems and comes into widespread use, the cost of designing and implementing programs based on that technology should go down.³⁹² By nudging industry practice, the government can tweak inferential distance and expand (or contract, if necessary) what counts as corporate knowledge under the functional approach.

The functional account can also keep pace with the shifting balance between compliance and crime. Scholars predict that as compliance professionals begin to take advantage of technological developments—such as automation, big data, and artificial intelligence—the costs of compliance will decrease significantly.³⁹³ As far

388. See, e.g., Jennifer Arlen & Marcel Kahan, *Corporate Governance Regulation Through Nonprosecution*, 84 U. CHI. L. REV. 323, 329 (2017).

389. See Cristie L. Ford, *New Governance, Compliance, and Principles-Based Securities Regulation*, 45 AM. BUS. L.J. 1, 41 (2008) (“The rolling best-practices rulemaking approach suggests a mechanism for harnessing regulation to change the ground rules by which industry operates.”).

390. See, e.g., Patricia B. Hsue, *Lessons from United States v. Stein: Is the Line Between Criminal and Civil Sanctions for Illegal Tax Shelters a Dot?*, 102 NW. U. L. REV. 903, 942 (2008) (“Civil sanctions are a superior method for regulating the tax shelter industry.”).

391. See, e.g., Roberta F. Mann, *Controlling the Environmental Costs of Obesity*, 47 ENVTL. L. 695, 731 (2017) (“Income tax changes could be designed to incentivize healthy behavior and penalize a food industry that creates junk food addicts. While potential increases to the tax liability of food producers may not be as salient to consumers as a food excise tax, it may be salient enough to cause reformulation of food products.”).

392. See Katelyn Conlon, *4 Key Benefits of Compliance Technology*, CONVERCENT (July 1, 2015), <https://www.convercent.com/blog/4-key-benefits-of-compliance-technology> [<https://perma.cc/358R-3LR3>].

393. See Laufer, *supra* note 18, at 396 (“[T]he costs of [corporate] self-regulation will likely decrease in the intermediate term.... The migration toward the digitalization of compliance, algorithm-based large data aggregation, increasingly sophisticated compliance data analytics and enterprise wide Governance, Risk, and Compliance ... systems, will soon replace clunky and dated legacy systems and software.”).

as respondeat superior and the collective knowledge doctrine are concerned, this development would have no effect. But deterrence theorists should care. A reduction in the costs of compliance would mean that increased levels of compliance would be socially optimal.³⁹⁴ The functional account would incentivize corporations to increase compliance activity as compliance costs shrink. A reduction in the costs of compliance would entail a reduction in the effort required to make an inference, thereby increasing the likelihood that a corporation would be treated as knowing it.³⁹⁵ The net result of the functional account would be to capitalize—in a way respondeat superior and collective knowledge cannot—on the crime-preventing efficiencies of improved and cheaper compliance technology.

The issue of when inferential distance is too great for knowledge attribution is a question of criminal justice. Policymakers who wish to prioritize the efficiency concerns of optimal deterrence could, in theory, calculate a numerical value for inferential distance and specify an efficient cutoff. One concern with this approach, however, would be that the efficient cutoff might compromise criminal law's retributive goals, discussed next.³⁹⁶ Since the functional account has three leverage points—obviousness, effort, and limits on inferential distance—policymakers should be able to triangulate to an appropriate balance between retributive and deterrent objectives.

It is doubtful that policymakers would ever have enough data to know precisely what level of deterrence is optimal. So the functional account would likely rest on individualized in-court determinations of when inferential distance is “too great” to permit knowledge attribution.³⁹⁷ This is not a shortcoming particular to the functional account. It is a general limitation of optimal deterrence as a theory of criminal justice; *optimal* deterrence is elusive.³⁹⁸ Achieving the precise point of optimal deterrence requires full information about

394. See *id.* at 396-97 (discussing how compliance technology can reduce costs while enhancing transparency); Conlon, *supra* note 392 (explaining how compliance technology can help industry actors reduce their own risk).

395. See *supra* Part IV.B.

396. See discussion *infra* Part V.B.

397. See *supra* Part IV.

398. See Robinson & Darley, *supra* note 210, at 977 (arguing that optimal deterrence is impossible because it requires complex knowledge of a large number of factors, and that complete knowledge of these factors is impossible).

incentives and social welfare,³⁹⁹ and this is something that economists concede will never be available.⁴⁰⁰

Policymakers could fill in some numerical details of the functional account on the basis of available information to approximate optimal deterrence. Whether doing so makes sense would depend on whether the social benefits of a more precise account outweigh the social costs associated with gathering the information and passing legislation.⁴⁰¹ The functional account allows for experimentation that could be a valuable source of information for policymakers should the balance of costs and benefits favor acquiring it. When future data is generated as attempted approximations are implemented, the required balance between effort and obviousness and the thresholds for knowledge attribution can be refined.⁴⁰² Current doctrine lacks even this basic feature since it inflexibly treats all corporate knowledge alike.

The functional account does bring with it two costs that respondeat superior and the collective knowledge doctrine do a good job of minimizing: administrative costs and uncertainty costs.⁴⁰³ Lower administrative costs are preferable, all else being equal.⁴⁰⁴ Administrative costs refer to the costs associated with applying a legal rule or standard to particular cases.⁴⁰⁵ One major component is the cost associated with gathering the facts needed to apply the

399. *Id.*

400. See, e.g., Steven Shavell, *Criminal Law and the Optimal Use of Nonmonetary Sanctions as a Deterrent*, 85 COLUM. L. REV. 1232, 1243 (1985) (“Realistically, the courts cannot obtain perfect information about parties and their acts.”).

401. See Colin S. Diver, *The Optimal Precision of Administrative Rules*, 93 YALE L.J. 65, 71-74 (1983).

402. See James L. Kenkel, *An Iterative Technique for Finding Efficient Trade-Offs Between Variables in Economic Models*, in MODELING AND SIMULATION, PROCEEDINGS OF THE TENTH PITTSBURGH MODELING AND SIMULATION CONFERENCE 1515 (William G. Vogt & Marlin H. Mickle eds. 1970).

403. See R. H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 18-19 (1960).

404. See also David Rosenberg, *The Causal Connection in Mass Exposure Cases: A “Public Law” Vision of the Tort System*, 97 HARV. L. REV. 849, 888 (1984) (“From a utilitarian standpoint, functional productivity is maximized when the sum of all accident costs—including injury losses, avoidance costs, and administrative costs—is minimized.”).

405. See WILLIAM M. LANDES & RICHARD A. POSNER, *THE ECONOMIC STRUCTURE OF TORT LAW* 25, 27, 122 (1987); Louis Kaplow & Steven Shavell, *Property Rules Versus Liability Rules: An Economic Analysis*, 109 HARV. L. REV. 713, 741 (1996) (“These costs consist of the public and private costs associated with settled or litigated lawsuits and the costs of bargaining to avoid the suboptimal outcome a rule would produce.”).

rule or standard.⁴⁰⁶ The facts that judges and juries need under current doctrine are relatively simple. They mostly just need evidence showing what a corporate defendant's employees knew.⁴⁰⁷ The functional account has greater administrative costs. In addition to evidence of what employees knew, courts would also need evidence from which they could infer the effort and obviousness of any relevant inferences.⁴⁰⁸ This would likely require advocates to call upon expert witnesses,⁴⁰⁹ who can quickly inflate administrative costs.⁴¹⁰

Even after all the relevant facts are in hand, moving to the functional account would introduce new uncertainty costs. As a general rule, uncertainty as to liability introduces inefficiency,⁴¹¹ especially in the corporate context.⁴¹² Preparing for the uncertain prospect of liability is harder,⁴¹³ in part because it may lead potential

406. See, e.g., Peter J. Henning, *The Mounting Costs of Internal Investigations*, N.Y. TIMES: DEALBOOK, (Mar. 5, 2012, 11:07 AM), <https://dealbook.nytimes.com/2012/03/05/the-mounting-costs-of-internal-investigations/> [<https://perma.cc/WF5B-M688>] (reporting that Avon spent over \$200 million on internal investigations between 2009 and 2011).

407. See *supra* Part II.A (requiring evaluation of employees' mental state); *supra* Part II.B (explaining that under the collective knowledge doctrine, anything known by any and all employees can be attributed to the corporation).

408. See *supra* Part IV.B (explaining that effort requires case-by-case examination of the costs of implementing compliance programs); see also *supra* Part IV.C (explaining that obviousness requires a determination of the attributes of the corporation's "reference class" among other things).

409. See Samuel R. Gross, *Expert Evidence*, 1991 WIS. L. REV. 1113, 1182 ("We call expert witnesses to testify about matters that are beyond the ordinary understanding of lay people (that is both the major practical justification and a formal legal requirement for expert testimony), and then we ask lay judges and jurors to judge their testimony. This is a very general problem.").

410. See Marc Davis, *For an Expert Witness, Consider Reputation, Location, and Cost*, ABA J. (Nov. 1, 2016), http://www.abajournal.com/magazine/article/choosing_expert_witness [<https://perma.cc/4A4J-L6VS>] (reporting that the cost of an expert witness may be well over \$100,000, depending on the expertise of the witness).

411. See Andrew Morrison Stumpff, *The Law Is a Fractal: The Attempt to Anticipate Everything*, 44 LOY. U. CHI. L.J. 649, 676 (2013) ("The usual operating assumption seems to have been that because uncertainty is costly, the existence of a rule for every situation will always reduce transaction costs.").

412. See Wesley D. Markham, *Healthcare Reform's Mandatory Medical Loss Ratio: Constitutionality, Policy, and Implementation*, 46 U.S.F. L. REV. 139, 143 (2011) ("Uncertainty is costly, especially for businesses that must structure their operations to conform to a web of government regulations."); Richard A. Posner, *Savigny, Holmes, and the Law and Economics of Possession*, 86 VA. L. REV. 535, 565 (2000) ("Uncertainty is costly in itself.").

413. See Louis Kaplow, *The Value of Accuracy in Adjudication: An Economic Analysis*, 23 J. LEGAL STUD. 307, 327 (1994) ("[I]ndividuals may find it easier (cheaper) to become informed under rules.").

defendants to take unnecessary precautions.⁴¹⁴ Then, once a claim of liability arises, resolving it becomes more difficult because uncertainty can lead the parties to have different predictions about the outcome.⁴¹⁵ Since respondeat superior and the collective knowledge doctrine apply in the same mechanical way to all corporations, the results they call for are relatively predictable. The functional account brings uncertainty with it since it asks courts to balance effort and obviousness for each corporate defendant before attributing inferential knowledge.⁴¹⁶

The administrative and uncertainty tradeoffs between current doctrine and the functional account are the familiar tradeoffs of using rules versus standards.⁴¹⁷ Rules generally “abstract a few relevant facts from the welter of circumstances of each actual case and make the selected facts legally determinative.”⁴¹⁸ Respondeat superior and the collective knowledge doctrine operate with rule-like automaticity since they trigger knowledge attribution based on the facts of what employees know and what is inferable therefrom.⁴¹⁹ The functional account is more standard-like, since it would require adjudicators to evaluatively balance effort and obviousness to determine when an inference is too far for attribution.⁴²⁰

414. See Duncan Kennedy, *Form and Substance in Private Law Adjudication*, 89 HARV. L. REV. 1685, 1688 (1976) (“Certainty, on the other hand, is valued for its effect on the citizenry: if private actors can know in advance the incidence of official intervention, they will adjust their activities in advance to take account of them.”).

415. See Diver, *supra* note 401, at 74 (“The cost to both the regulated population and enforcement officials of applying a rule tends to increase as the rule’s opacity or inaccessibility increases. Transparent and accessible rules can reduce the number of disputes that arise and simplify their resolution by causing the parties’ predictions of the outcome to converge.”).

416. See Mark A. Kressel, *Contractual Waiver of Corporate Attorney-Client Privilege*, 116 YALE L.J. 412, 436 (2006) (“Any balancing test solution will also leave in place most of the agency costs associated with unpredictability in litigation and judicial error.”).

417. See generally Louis Kaplow, *Rules Versus Standards: An Economic Analysis*, 42 DUKE L.J. 557, 562-67 (1992).

418. Posner, *supra* note 412, at 565.

419. See Pierre Schlag, *Rules and Standards*, 33 UCLA L. REV. 379, 382 (1985) (“Corresponding to the two parts of a directive, there are two sets of oppositions that constitute the rules v. standards dichotomy: The trigger can be either empirical or evaluative, and the response can be either determined or guided.”). Different characterizations of the distinction between rules and standards are available. See, e.g., Kaplow, *supra* note 417, at 560 (“This Article will adopt such a definition, in which *the only distinction between rules and standards is the extent to which efforts to give content to the law are undertaken before or after individuals act.*”).

420. See Kaplow, *supra* note 417, at 560.

The choice between rules and standards can be viewed economically by comparing the costs and benefits flowing from each.⁴²¹ “Rules ... are said to be appropriate when certainty, uniformity, stability, and security are highly valued, whereas standards are seen as more appropriate when flexibility, individualization, openness, and dynamism are important.”⁴²² Recall that part of the problem with current doctrine is that it fails to take account of the wide differences between corporations and industries.⁴²³ “[A]n imperfect fit ... resulting in some outcomes that are erroneous from the standpoint of the substantive principle” is a predictable feature of using any rule.⁴²⁴ But if the arguments in Part III are correct, then the gap between current doctrine and perfect fit is very wide indeed.⁴²⁵ Respondeat superior and the collective knowledge doctrine drive corporations to the undesirable poles of a spectrum between more unacceptable levels of corporate misconduct and overinvestment in compliance, respectively. Given the current massive social costs of both,⁴²⁶ the administrative costs and uncertainty costs of getting better tailored outcomes under the functional account should be easy to justify. Though expert compliance witnesses would be an additional administrative cost under the functional account, the social benefits of bringing them into the picture should be no harder to justify than where other experts in fields such as accounting⁴²⁷ or environmental science⁴²⁸ are a necessary aid to courts.

421. See Diver, *supra* note 401, at 72 (“A social utility-maximizing rulemaker would, for any conceivable set of rule formulations, identify and estimate the social costs and benefits flowing from each, and select the one with the greatest net social benefit.”).

422. Schlag, *supra* note 419, at 400; see Kennedy, *supra* note 236, at 1689 (“The choice of rules as the mode of intervention involves the sacrifice of precision in the achievement of the objectives lying behind the rules.”).

423. See *supra* Part III.A.

424. See Posner, *supra* note 412, at 565.

425. See *supra* Part III.

426. See Laufer, *supra* note 18, at 399.

427. See Sofia Adrogúe & Alan Ratliff, *Kicking the Tires After Kumho: The Bottom Line on Admitting Financial Expert Testimony*, 37 HOUS. L. REV. 431, 477 (2000).

428. See generally Kim K. Burke, *The Use of Experts in Environmental Litigation: A Practitioner's Guide*, 25 N. KY. L. REV. 111 (1997).

B. Retribution

If criminal law is to satisfy its retributive goals—to satisfy “society’s desire to see those [corporations] responsible for misconduct punished”⁴²⁹—it should, to the extent possible, treat corporations as though they know things in the same way that individual humans do. This approach best incorporates the way people actually determine whether to hold entitative groups like corporations responsible.⁴³⁰ Evidence suggests that we are inclined to assess and respond to collective responsibility in much the same way that we assess and respond to the responsibility of individuals.⁴³¹ Our practice of blaming groups like corporations closely resembles the practice of blaming individuals,⁴³² especially insofar as our assessments of responsibility depend, as they often do, on attributing mental states, like knowledge.⁴³³ This suggests that a retributively appropriate criminal justice system should attribute inferential knowledge to corporate defendants, as much as possible, as though they were ordinary natural people.⁴³⁴

The structure of corporate criminal law already reflects this psychologizing perspective to some extent.⁴³⁵ It defines corporations to be a type of person.⁴³⁶ In specifying the elements of corporate crime, the law uses ordinary human mental states for the mens rea.⁴³⁷ On a plain reading, terms such as “intent” and “knowledge”

429. Peter J. Henning, *Should the Perception of Corporate Punishment Matter?*, 19 J.L. & POL’Y 83, 93 (2010).

430. *See id.* (arguing that criminal law should be public perceptions of corporate punishment); Bertram F. Malle, *The Social and Moral Cognition of Group Agents*, 19 J.L. & POL’Y, 95, 136 (2010) (“[T]he law must heed the concepts and criteria by which ordinary people recognize group agents and judge their moral conduct.”).

431. *See Malle, supra* note 430, at 130.

432. *See id.* at 132 (“[G]roup agents can be blamed through the operation of the same cognitive apparatus through which individuals are blamed.”).

433. *See Daniel C. Dennett, Three Kinds of Intentional Psychology*, in *THE INTENTIONAL STANCE* 43, 58 (1987); Steve Guglielmo et al., *At the Heart of Morality Lies Folk Psychology*, 52 INQUIRY 449, 669 (2009); Tracy Isaacs, *Collective Moral Responsibility and Collective Intention*, 30 MIDWEST STUD. PHIL. 59, 62 (2006).

434. *See Henning, supra* note 429, at 93.

435. *See id.*

436. A corporation is an entity “having authority under law to act as a single person.” *Corporation*, BLACK’S LAW DICTIONARY (10th ed. 2012); *see* 1 U.S.C. § 1 (2012) (defining “person” to include corporations).

437. *See Laufer, supra* note 202, at 652 (noting that the Supreme Court, when it introduced

mean the same thing when they are used for individual people and for corporations.⁴³⁸ If Congress meant something totally unlike human knowledge when referring to corporate knowledge, it could have used a different word or explicitly defined knowledge, as applied to corporations, differently.

The fact that Congress and ordinary people think of corporate knowledge as analogous to human knowledge does not make theorizing a retributively appropriate account of corporate knowledge straightforward.⁴³⁹ Trying to attribute inferential knowledge to corporations as we would to ordinary people quickly becomes complicated. Inferential distance for corporations, even within a fiction that tries to treat them as people, must be quite unlike our own. A large corporation's ability to acquire and process knowledge outpaces that of any individual human being.⁴⁴⁰ America's seventy-five largest corporations all have more than 100,000 employees.⁴⁴¹ Walmart, the largest employer, has 2.2 million employees.⁴⁴² That is a lot of knowledge. What is more, much of this knowledge is specialized and technical.⁴⁴³ Corporations hire financial analysts, accountants, attorneys, computer scientists, and any number of other highly trained professionals with technical backgrounds most people lack.⁴⁴⁴ To top it all off, these employees are collectively capable of managing and processing this information in ways unattainable by individual human minds.⁴⁴⁵

While corporations may be much more sophisticated "knowers" than natural people, they are just more extreme versions of a more

corporate criminal liability, drew on individual human mens rea; "[t]he notion of a distinct corporate *mens rea* or *actus reus* was ignored"); William S. Laufer, *Culpability and the Sentencing of Corporations*, 71 NEB. L. REV. 1049, 1085 (1992) ("Commentators who suggest the importance of determining corporate culpability, rather than individual mens rea which is imputed to an entity, may have underestimated how far the federal statutory law has strayed into obscurity.").

438. See ANTONIN SCALIA & BRYAN A. GARNER, *READING LAW: THE INTERPRETATION OF LEGAL TEXTS* 53 (2012) (discussing the presumption of consistent usage canon).

439. See Laufer, *supra* note 437, at 1089.

440. See Laufer, *supra* note 18, at 393.

441. See *Biggest Employers*, *supra* note 292.

442. See *Company Facts*, WALMART, <https://corporate.walmart.com/newsroom/company-facts> [<https://perma.cc/334G-GD3C>].

443. See Laufer, *supra* note 18, at 393.

444. See *id.*

445. See *id.*

familiar sort of case. The law frequently calls on people, such as judges, jurors, and the observing public, to assess the beliefs and knowledge of their epistemic superiors—those with more training, education, or ability.⁴⁴⁶ This comes up frequently in the context of professional malpractice,⁴⁴⁷ but is common in other areas of law as well, such as Fourth Amendment stop-and-frisk cases.⁴⁴⁸ The law asks lay jurors to assess what the expert defendant must have known (but perhaps now disingenuously denies knowing), should have known, or was reasonable in believing.⁴⁴⁹ Did the attorney actually know the argument was frivolous but make it anyway? Should the doctor have known that the redness and swelling indicated an advanced infection? Was the police officer reasonable to believe that her safety was threatened?

Since retributivists should want the law to attribute inferential knowledge to corporations as it does to individual defendants, they should try to adapt the law's ordinary procedures for gauging inferential distance. Grounding the procedure for corporate defendants in the procedures used for sophisticated individual defendants stands the best chance of assuring the former will reflect lay intuitions about corporate knowledge.⁴⁵⁰ As nonexperts, typical jurors have no immediate basis for assessing the credibility of an expert's denial that she made some inference relevant to her expertise.⁴⁵¹ Instead, the parties call in witnesses with the same expertise as the defendant to testify about whether the knowledge or inference in question would be the sort of thing the defendant could easily have known and whether other experts would have known it.⁴⁵² This

446. See Malle, *supra* note 430, at 136.

447. See Michael J. Polelle, *Who's on First, and What's a Professional?*, 33 U.S.F. L. REV. 205, 206 (1999) ("Once the plaintiff files an action for professional negligence, he or she must prove the professional failed to possess and apply the knowledge, skill and ability that a reasonably careful professional in the field would exercise under the circumstances.").

448. See *Florida v. Harris*, 568 U.S. 237, 243-44 (2013) ("A police officer has probable cause to conduct a search when the facts available to [the officer] would warrant a [person] of reasonable caution in the belief that contraband or evidence of a crime is present.... All we have required is the kind of fair probability on which reasonable and prudent [people,] not legal technicians, act." (internal citations omitted)).

449. See Burke, *supra* note 428, at 120-21.

450. See Laufer, *supra* note 18, at 411.

451. See Burke, *supra* note 428, at 127.

452. See, e.g., RODNEY A. SMOLLA, 1 LAW OF DEFAMATION § 3:93 (2d ed. Nov. 2018 update) ("[P]roof of deviation from professional standards normally requires expert testimony."); see

gives jurors some basis for assessing an expert defendant's credibility if she denies knowing something.⁴⁵³ The more obvious and less effortful the inferential distance, the less credible the claim.

The parallel to the functional account of corporate knowledge should be apparent. The functional account of whether a corporation knows some inference turns on the same factors—effort and obviousness—that factfinders use for individual experts.⁴⁵⁴ Both respondeat superior and the collective knowledge doctrine attribute inferences without regard to these factors.⁴⁵⁵ Respondeat superior blocks the attribution of inferences no matter how effortless and obvious.⁴⁵⁶ And the collective knowledge doctrine allows attribution of them no matter how effortful and nonobvious.⁴⁵⁷ Since we know that people assess corporate mens rea like they do individual mens rea, both of these approaches are retributively inappropriate. The functional account offers the best chance of giving factfinders the tools they need to render an intuitively just verdict. Under the functional account, factfinders gauge whether, in light of some background knowledge the corporation had, it “must have known” or “cannot have known” some further inference.⁴⁵⁸

CONCLUSION: BEYOND CRIMINAL DOCTRINE

The way we attribute knowledge to corporations in criminal law affects the sort of compliance programs corporations choose to implement and the amount of corporate misconduct that results.⁴⁵⁹ Current doctrine was developed for a vastly different legal and historical context. Both respondeat superior⁴⁶⁰ and the collective

also Joseph H. King, *The Common Knowledge Exception to the Expert Testimony Requirement for Establishing the Standard of Care in Medical Malpractice*, 59 ALA. L. REV. 51, 84 (2007) (“[M]alpractice cases are generally resolved within the adversary system with medical experts, selected and paid by the parties, who provide the jury with opinions on the relevant professional standards and whether they were satisfied or breached.”).

453. See, e.g., King, *supra* note 452, at 91.

454. See *id.*

455. See *supra* Part II.

456. See Ellis & Dow, *supra* note 122, at 176-77.

457. See *United States v. Bank of New Eng.*, 821 F.2d 844, 855-56 (1st Cir. 1987); Lackey, *supra* note 333, at 381.

458. See *supra* Part IV.

459. See Laufer, *supra* note 18, at 399.

460. See Diamantis, *supra* note 11, at 2054.

knowledge doctrine⁴⁶¹ initially arose for noncorporate, civil law disputes, well before the true ascendancy of the corporate form. It is therefore unsurprising that they fall far short of realizing the deterrent and retributive objectives of corporate criminal law. Scholars too have mostly missed the mark. They are keen to theorize about corporate culpability, but rarely discuss corporate knowledge as a culpable mental state with distinct properties.⁴⁶² Knowledge is importantly different from other mens rea, both in terms of its internal logic and in how its attribution in criminal law affects corporate incentives.

This Article has introduced tools that can give an effective account of corporate knowledge while working within the current doctrinal framework. It did this by focusing on the important but overlooked distinction between what a corporation knows and what is mere information present somewhere in the corporate structure. The key to fine-tuning the line between what the law considers corporate knowledge and what it considers mere information is to focus on when the law will treat corporations as knowing facts inferable from information known by employees. By calibrating that line, the law can strike a balance between the excesses of respondeat superior, which attributes no inferences, and the collective knowledge doctrine, which risks attributing them all.

I developed a framework—which I call the “functional account”—that policymakers and courts can use for deciding when to attribute knowledge of inferences to corporations. The two pillars of the framework are what I called “effort”—how much it would cost a corporation to make the inference—and “obviousness”—whether similar corporations make similar inferences. According to the functional account, corporations should be treated as knowing less effortful and more obvious inferences. The functional account is well-positioned to realize criminal law’s deterrent and retributive aims. Since it tracks the way people naturally think about whether corporations have culpable knowledge, it has the best chance of punishing corporations when, and only when, such condemnation would be retributively appropriate. Since Congress can tweak how the functional account applies in different corporate contexts by

461. See Hagemann & Grinstein, *supra* note 35, at 211.

462. *But see* Moore, *supra* note 317, at 797.

using noncriminal tools to shift industry practice, the functional account could be a powerful tool on the road to optimal deterrence.

My hope is also that the functional account will be helpful—beyond criminal doctrine—for practitioners, as an account of how people ordinarily think about corporate knowledge, and in other legal settings, as an adaptable general theory of corporate scienter. Practitioners know that whether people sympathize with a defendant can affect trial⁴⁶³ and public opinion.⁴⁶⁴ If the current views of cognitive scientists and psychologists are right—that people intuitively think of corporate knowledge in the same way they think about individual knowledge⁴⁶⁵—then the characterizations of effort and obviousness from above are important ingredients that will shape ordinary moral judgments. Compliance professionals looking to manage lay opinion prospectively or attorneys trying to shape the opinions of juries should bear in mind data about the costs of compliance (effort) and the practices of peer corporations (obviousness). Commentators have observed that the consultants who design corporate compliance programs do not seem to have a good sense of how much compliance is enough, and when it is too much.⁴⁶⁶ The functional account offers a metric. Even if current doctrine is not functional, people's opinions about corporate innocence and guilt are.⁴⁶⁷

As indicated at the beginning of this Article, corporate knowledge is relevant not only in criminal law; civil and regulatory liability often also turn on what a corporation knew.⁴⁶⁸ For example, the civil

463. See HARRY KALVEN, JR. & HANS ZEISEL, *THE AMERICAN JURY* 194 (1966) (discussing the impact of jury sympathy on the outcomes of criminal trials).

464. See Michele DeStefano Beardslee, *Advocacy in the Court of Public Opinion, Installment Two: How Far Should Corporate Attorneys Go?*, 23 *GEO. J. LEGAL ETHICS* 1119, 1133 (2010) (“The court of public opinion is perhaps as important as a court of law to the resolution of [corporate] legal controversies.”); Kenneth J. Melilli, *Prosecutorial Discretion in an Adversary System*, 1992 *BYU L. REV.* 669, 688 (discussing influence of public opinion on prosecutors); Fred C. Zacharias, *Specificity in Professional Responsibility Codes: Theory, Practice, and the Paradigm of Prosecutorial Ethics*, 69 *NOTRE DAME L. REV.* 223, 282 n.175 (1993) (“At least in publicized cases, elected prosecutors inevitably take public opinion into account.”).

465. See Laufer, *supra* note 267, at 1089.

466. See generally Kathleen M. Boozang & Simon Handler-Hutchinson, “Monitoring” *Corporate Corruption: DOJ’s Use of Deferred Prosecution Agreements in Health Care*, 35 *AM. J.L. & MED.* 89 (2009).

467. See Diamantis, *supra* note 11, at 2078.

468. See *supra* Part II.

provisions of the False Claims Act apply when a corporation “knowingly presents ... a false or fraudulent claim for payment” to the federal government.⁴⁶⁹ So, the same difficulties about what it means for a corporation to “know” something arise in the civil and regulatory contexts as well.⁴⁷⁰ All corporate knowledge remains, in a sense, constructive knowledge.⁴⁷¹ And the same doctrines—*respondeat superior* and collective knowledge—push corporate incentives inefficiently in opposite directions. Here, as for criminal law, the flexibility of the functional account could help. By adjusting the effort and obviousness thresholds for knowledge attribution, lawmakers can tailor the demandingness of corporate knowledge attribution to the needs of different areas of law. Assuming there is an optimal point across contexts for treating corporate information as corporate knowledge, the functional account has the tools to reach it.

469. 31 U.S.C. § 3729(a)(1)(A) (2012).

470. See Diamantis, *supra* note 11, at 2088.

471. The False Claims Act itself defines knowledge constructively. 31 U.S.C. § 3729(b)(1)(A) (defining “knowing” to mean “has actual knowledge,” “acts in deliberate ignorance” of the underlying information, or “acts in reckless disregard of the truth or falsity” of the underlying information).