



PENTAGONIAN CORPORATE ETHICS?

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Jorge E. Rodriguez presents a preliminary design of a “morality system governing artificial intelligence,” which includes the functions of robots.

Keywords: Jorge Enrique Rodriguez, pentagonian, corporate, ethics, PcE, robot, busy child, program, compass, negotiation, triangle, artificial intelligence, AI, emotional intelligence, EI, economics, social justice, environment, utilitarianism, morality, legal, robotics, agent, estoppel, govern, social robots, morality system, pentagon, AI robots, doctrine, Kurzweil, Pattern Recognition Theory of the Mind, ideology, cyborg, beme, triple-bottom-line, Elkington, roboethicist, Bentham, Aristotle, Naam, Kaku, Huxley, Internet, Barrat, Deep Blue, IBM, Asimov, Three Laws, philosophy, psychology, physical science, cybernetic, consciousness, beingness, cyberconsciousness, Virtual Friendly Robot, human, contract, promisor, promisee, SCOR, Specialized Court on Robotics.

I. INTRODUCTION

Second-by-second a corporate entity helps an individual (e.g. employee, investor, consumer or an agent) or threatens people and organizations (e.g. government entities, or other for-profit or not-for-profit corporate entities).¹ An ethics-based philosophy may guide the actions of the individuals in the corporate entity. In particular, Pentagonian Corporate Ethics (“PcE”) may be a theoretical blueprint for generally designing or programming “ethical robots” in a corporate setting.² Corporate strategists may choose to design the “moral education” of novel “AI children”³ from PcE because, for example, PcE is grounded to the “accepted” -- philosophical, business and scientific theories -- of the “Negotiation Triangle,” the “Triple Bottom Line” and Artificial Intelligence (“AI”).

¹ See, e.g., Rakesh Khurana & Katharina Pick, *The Social Nature of Boards*, 70 Brook. L. Rev. 1259 (2005), in *Corporate Ethics Seminar – Course Packet* at 144 (stating that “the firm itself is described as a legal fiction that serves as a nexus of individual contracts”) [hereinafter *Course Readings*].

² Note, this paper arose after Jennifer Ivey-Crickenberger, J.D. supported my idea to explore robotics when she was the professor of our fall 2013 Corporate Ethics seminar at the Univ. of Md. Carey Sch. of Law. I also thank Professor Michele Goodwin, J.D. for being one of my professors of law who inspires law students. This publication in *Terasem* is also a result of meeting Loraine Rhodes via LinkedIn. This paper is not intended to be legal advice.

³ See Barrat, J. (2013). *Our Final Invention: Artificial Intelligence and the End of the Human Era*. New York: St. Martins Press, 8 (noting that scientists even named AI as the “busy child” since AI functions by using the Internet to accumulate billions upon billions of characters of mankind’s knowledge).

In addition to presenting a new social construct at the intersection of AI and “corporate ethics,” the objective is to contribute to a general debate about relations between human beings and robots in civil society. Mindfulness that “ethical problems cannot be resolved in a vacuum”⁴ is a cornerstone here, especially when combating a trend of failing to explore how AI can be a threat.⁵ The alternative would be complacency derived from uncertainty.⁶ For instance, one who proposes that -- “harms at issue (with AI robots) are hard to identify, measure, and resist”⁷ -- may be an incomplete perception because the general, yet simplified, PcE framework can help us organize how to “best manage” AI (risk), notwithstanding sources of law.



Here, the AI-related ethical dilemma is rooted to one main question: How can we consider the moral education of artificial intelligence?⁸ As a stepping-stone to answering this question, Part Two establishes the ideological background of PcE. PcE emerged by uniting -- “The Triangle of Conflict and Negotiation” (“Negotiation Triangle”) and the “Triple-Bottom Line” -- to Artificial Intelligence. Accordingly, the five sides of PcE are introduced here: Economics, Emotional Intelligence, Social Justice, the Environment, and Artificial Intelligence. These five factors (inputs) can theoretically be a medium for the “happiness principle” and corporate social responsibility (output), for example.

Next, Part Three highlights “AI science” since AI is a separate category in the PcE framework. This part also briefly addresses the issue of “trusting” the science of robotics.

⁴ Central Milk Producers Co-op. v. SENTRY Food Stores, Inc., 573 F. 2d 988, 991 (8th Cir. 1978).

⁵ Barrat, *supra* note 3, at 267 (stating that “[t]he failure to explore the threat (of dangerous AI) is almost society-wide”, and once AI is “living,” this superintelligent creation would be kept “secret so long as it was making money for the creators”).

⁶ See Varki, A. & Brower, D. (2013). *Denial: Self Deception, False Beliefs, and the Origins of the Human Mind*. New York: Hachette Book Group, 222-225 (highlighting the history of our planet’s climate and issues of climate change where overpopulation, corporations and governments are a part of the cause(s) of “global warming”).

⁷ Calo, M.R. (2014). Robots and Privacy, in Lin, P. et al., *Robot Ethics: The Ethical and Social Implications of Robotics*. (Kindle Loc. 4587-4590) (“attempt[ing] to introduce a variety of ways in which robots may implicate the set of societal values loosely grouped under the term ‘privacy’”).

⁸ Kurzweil, R. (2012). *How to Create a Mind*. London: Viking, 17 (Kurzweil coins and defends his Pattern Recognition Theory of the Mind (“PRTM”), and an underlying thesis in support of the Law of Accelerating Returns (“LOAR”). In particular, Kurzweil believes that “we will need to consider” the moral education of nonbiological brains. Kurzweil also predicts that nonbiological minds will be “far more capable” at “effecting changes in the world” than an unenhanced biological mind.)).

Moving forward into a legal forum, Part Four adds a brief “legal experiment.” To better understand PcE and to emphasize the importance of “facts” related to the novelty of robotics, this part includes a contractual situation between a “principal” and an “agent.” The issues include a privacy claim at the federal level, and the defense of the breach of contract claim at the state level. The focus is on federal civil procedure, including supplemental jurisdiction, and a defense at the state level: Equitable estoppel and the detrimental reliance element.

In addition, the paper concludes with the idea that legislation may be necessary to create a “specialized court on robotics” (“SCOR”). For example, if a federal question is attached to a state-based contracts claim, SCOR may be an alternative to blindly relying on the novelty exception of supplemental jurisdiction.

II. “IDEOLOGY:” PENTAGONIAN CORPORATE ETHICS

In this part, the theoretical foundation of PcE is deduced.⁹ Question: Is it possible to design a general framework for a “robotics code of ethics”?¹⁰ One response: Yes because, ideologically, a human programmer can build “ethical AI” via coding that satisfies PcE’s *five* factors, which can attach to “utilitarianism” and “corporate social responsibility” (“CSR”).

A. Engineering Pentagonian Corporate Ethics (PcE)

Pentagonian Corporate Ethics may be a strategic planning tool because PcE may shape the general design of “morally responsible” AI, particularly related to robotics.¹¹ The foundation of PcE is the concept of “ethics,”¹² which may be defined as “a set of moral issues or aspects (as rightness).”¹³

A *pentagon* is the shape of PcE because, for example, PcE is built from five “x factors” (inputs) that can be used to organize whether a robot is designed for ethical ends.¹⁴ The five sides to PcE are: (1) Artificial Intelligence (AI); (2) Emotional Intelligence (EI); (3) Economics (EC); (4) Social Justice (SJ); (5) the Environment (ENV). These terms represent five mutually

⁹ See, e.g., Bennett, M.R. & Hacker, P.M.S. (2007). Introduction to Philosophical Foundations of Neuroscience in Bennett, M.R. et al., *Neuroscience & Philosophy, Brain, Mind & Language*. New York: Columbia University Press, 3 (stating that “logical relations among concepts [are] a philosophical task”).

¹⁰ Lin, P. et al. (December 2011). Robot Ethics. MIT PRESS. <http://mitpress.mit.edu/books/robot-ethics> (last visited Nov. 25, 2013) (highlighting that “[e]thics is often slow to catch up with technological developments”).

¹¹ Barrat, *supra* note 3, at 12 (stating that “humans have never bargained with something that is superintelligent before,” nor with “any nonbiological creature”).

¹² Bennett, *supra* note 9, at 12 (stating that “[w]hat truth and falsity is to science, sense and nonsense is to philosophy”).

¹³ *Ethics Definition*, Merriam-webster.com, <http://www.merriam-webster.com/dictionary/ethic> (last visited Oct. 18, 2013) (as a plural form of “ethic,” the definition of ethics may also include: “an area of study that deals with ideas about what is good and bad behavior”; “a branch of philosophy dealing with what is morally right or wrong”; “a belief that something is very important”).

¹⁴ See Appendix, Figures 1 & 2. Note, eventually each side of PcE, via permutations or combinations, represents a set of facts that can lead to ethical or legal issues depending on how the AI (robot or cyborg related component) functioned or acted related to the particular set of morals or sources of law attached to PcE.

exclusive options; however, each should join together to form a unified set of ethical principles that theoretically could “morally educate” robotics.¹⁵

PcE may be considered a “novel” response to whether a general design for “AI morality” is (conceptually) possible. Even so, PcE derives from three established theories: “Negotiation Triangle,” “Triple Bottom-Line,” and “Artificial Intelligence.”¹⁶

First, the negotiation triangle captures three sides to any bargain. The three factors are: Economic(s) (EC), Emotional (Intelligence, EI), and Extrinsic (e.g. SJ).¹⁷ Corporate ethics may ultimately depend on or derive from these “three E’s” since each side relates to the positions or interests in the context of a bargaining situation, which is generally the factual circumstance in business relations.¹⁸

Second, the idea of corporate sustainability, which emerged from or led to the “Triple Bottom line” concept, highlights the environmental and social justice components of the PcE blueprint. John Elkington identified three pillars to sustain capitalism: “*economic* prosperity, *environmental* quality, and *social justice*.”¹⁹ In other words: “People, planet and profit” matter.²⁰ The environment (ENV) and social justice (SJ) also matter in PcE, and are therefore categories of ethical behavior within the general PcE framework.

B. Establishing Preliminary PcE Values under a Happiness and Corporate Social Responsibility Perspective

There may be some “tension between logic and semantics”²¹ when illuminating a philosophical topic.²² At a minimum, PcE can function as a theoretical convention when

¹⁵ Note, under *PcE*, actors are ethical (*y* variables) as a function of the five *PcE* components (*x* factors or variables). These “*x* factors” are associated with seven *y* variables: Three types of humans (H1, H2, H3); Two types of robots (R-1 or R-2); Two types of cyborgs (C-1 or C-2). These *y*’s would act ethically dependent upon the function of the *x* inputs. To elaborate, the “three general categories” of humans are: (1) a human being, who lives and evolves naturally from the day of birth (H1, a Birth Right); (2) a human being, who may medically need therapeutic care (H2, a Medical Necessity); (3) a human being, who chooses “non-therapeutic” medical means to improve their quality of life (H3, a Medical Want), may also be the one programming PcE or acting (un)ethically. *See also, e.g.,* Bennett et. al., *supra* note 9, at 6 (Noted, “human beings possess a wide range of psychological powers, which are exercised in the circumstances of life, when we (a) perceive, (b) think and (c) reason, (d) feel emotions, (e) want things, (f) form plans and (g) make decisions.”).

¹⁶ *See also*, Part 3, which focuses on artificial intelligence.

¹⁷ *See* Jay Folberg & Dwight Golann, *Lawyer Negotiation: Theory Practice & Law* 6 -7 (2d. ed. 2006) (Noted, “it can be difficult to quantify the emotional and extrinsic factors, but there might be ways to satisfy the internal-emotional and external-social factors in a manner that both settles the case and helps resolve the conflict.”) Note also, under PcE, the “extrinsic” side of the negotiation triangle is exchanged for the term social justice (SJ) since external interests or positions are likely a subset of a social community, which generally demands justice.

¹⁸ *Id.*

¹⁹ *See generally* Cannibals with Forks: The Triple Bottom Line of 21st Century Business (1997) (emphasis added).

²⁰ *See generally* Robert A. Katz & Antony Page, *Sustainable Business*, 62 *Emory L.J.* 851, 877 (2013) (focusing on social entrepreneurship).

²¹ *See, e.g.,* Scott Soames, *Philosophy of Language* 7, 93 (2010) (noting that the late nineteenth century was when the “philosophy of language emerged as a self-conscious and systematic area of study”).

²² *See also*, Jean-Jacques Rousseau, *The Social Contract* 7 (2005) (highlighting how one human being may not have natural authority over another human since no natural force creates such a right; also noting that the “despot assures his subjects civil tranquility”).

exploring what may be necessary for the “moral education” of AI. For example, PcE can theoretically attach to utilitarianism, or utilitarianism can branch out to PcE, via “happiness.”²³ Happiness may very likely be an “objective at which everybody aims, both in private and all together, both in pursuit and in avoidance.”²⁴ Here, a human being may reasonably seek happiness²⁵ by designing a robot’s actions under PcE’s general framework. Other “roboethicists” or software programmers may follow suit so that the robots they analyze or code are to act “ethically right” rather than outlaws.²⁶

To elaborate, Aristotle may define happiness as a “virtuous welfare, or self-sufficiency in life or the pleasantest secure life or material and physical well-being accompanied by the capacity to safeguard or procure the same.”²⁷ On a more practical level, Jeremy Bentham’s “greatest happiness principle” and John Stuart Mill’s clarifications, illuminate how a utilitarian may want to maximize the aggregate utility because “the ultimate standard for moral assessment” is utility, which is a function of the general happiness.²⁸ On a regulatory level for example, if more people benefit than are harmed, a government should follow a utilitarian policy, such as trying to “morally educate” AI.²⁹

²³ See, e.g., Cathcart, T. (2013). *The Trolley Problem Or Would You Throw the Fat Guy off the Bridge, A Philosophical Conundrum*. New York: Workman Publishing, 123 (Note, “[w]hile it could hardly be argued that the ‘trolley problem’ represents an ethical decision we are likely to be called upon to make in real life, learning to draw the distinction between individual rights and the *happiness* of the greatest number may, in fact, become a factor in a real ethical decision.”)).

²⁴ Aristotle. (1991). *The Art of Rhetoric*. London: Penguin Books, 86 (noting that the assumption that prevails in Aristotle’s section on happiness is that “the business of deliberation and advice is to present the advocated course of action as likely to promote some desired end, so that it is by investigating the ends of conduct, those things which men actually tend to seek out, that we will discover the sources of deliberative persuasiveness”).

²⁵ See, e.g., Rawls, J. (1971). *A Theory of Justice*. Massachusetts: Harvard University Press, 480-481 (an opinion about *happiness* is that “[w]e are happy when our rational plans are going well, our more important aims being fulfilled, and we are with reason quite sure that our good fortune will continue . . .”); see also, Russell, B. (1930). *The Conquest of Happiness*. London: Allen & Unwin, 24 (noting that *unhappiness* may arise “largely due to mistaken views of the world, mistaken ethics, mistaken habits of life, leading to destruction of that natural zest and appetite for possible things upon which all happiness, whether of men or animals, ultimately depends”; also noting that Bertrand Russell’s “technical work in logic created the field of mathematical logic (laying the foundation of which Alan Turing and others created the computer)”)).

²⁶ Visit <http://www.roboethics.org> (last visited Dec. 20, 2013) (International symposiums on “roboethics” have been held since at least 2004.).

²⁷ Aristotle, *supra* note 24, at 87-91 (Aristotle then explains elements of happiness, such as: Gentle birth; Good birth; Creditable and extensive offspring; Wealth; Good repute; Honour; Health.).

²⁸ See, e.g., Brink, D.O. (2010). *Mill’s Ambivalence About Rights*, 90 Boston Univ. Law Review, 1669, 1671, 1689-1690 (citing Mill, it “is clear about the existence and importance of rights, (but) he is ambivalent about how best to understand their nature, in particular, the way in which they are grounded in utility;” also explaining that Mill “has the resources for three distinct utilitarian conceptions of rights - rights as secondary principles, rights as protections of preeminent goods, and a sanction theory of rights”) (Furthermore, distinguishing between two types of utilitarianism may be necessary: (1) *Direct* Utilitarianism involves how “any object of moral assessment (e.g., action, motive, policy, or institution) should be assessed by and in proportion to the value of its consequences for the general happiness;” (2) *Indirect* utilitarianism may be defined as “any object of moral assessment (that) should be assessed, not by the value of its consequences for the general happiness, but by its conformity to something else (e.g., norms, motives, or responses) that has good or optimal acceptance value.” Hence, “PcE roboethicists” or (social) innovators may need to decide whether the five *x* factors should be labeled as a “happiness value” or based on a “happiness norm.”)).

²⁹ Note, under a “corporate” ethics perspective, reconciling this application with Bentham, a founder of modern utilitarianism, may not be easy since one of Bentham’s positions may be that “legal fictions serve no beneficial

Questions may arise when applying utilitarianism to the concept of a corporation due to a corporate entity being a creation that is non-human, unless only taking into account the human actors operating that corporate organization. A corporation is very likely “a legal fiction that serves as a nexus of individual contracts.”³⁰ Bentham likely saved a utilitarian’s leadership in corporate forums because he argued that utilitarianism should incorporate the “preferences of nonhuman organisms.”³¹ This may be consistent with the utilitarian principle³² that human beings with similar preferences may unite under a “corporate umbrella” to maximize aggregate utility.

Although PcE may theoretically adhere to utilitarianism, PcE factors may reasonably evolve into the Kantian sphere. Briefly, on a regulatory level, a position may be that the end (government action) is to use public service to protect and benefit constituents.³³ Further, a Kantian may argue that a state not only has a right³⁴ but also a moral duty to perform an action,³⁵ especially with a categorical duty to tell the truth and keep promises.³⁶ Here, if a government believes that PcE can be a framework for governance, it is (currently) unknown whether a government will promise to mandate the design of ethical robot functions under each PcE category.³⁷ Nevertheless, PcE may be a tool for building ethical values (inputs or means) into lawful robotics (outputs or ends).

In particular, Corporate Social Responsibility (CSR) is one output that can theoretically result from corporate actions under the PcE framework. Textually, CSR may be difficult to conceptualize³⁸ because there is likely no universal definition of CSR.³⁹ A helpful definition of

purpose . . .” See Hillman, R.A. (2002). Contract Lore. 27 *Journal Corporate Law*, 505, 513 (citing Jeremy Bentham).

³⁰ Khurana et. al., *supra* note 1.

³¹ Wiener, J.B. (1989). Beyond the Balance of Nature. 7 *Duke Environmental Law & Policy Forum* 1. Duke University. (citing Roderick Nash, *The Rights of Nature: A History of Environmental Ethics* 23).

³² See, e.g., Hockett, R. (2005). The Deep Grammar of Distribution: A Meta-Theory of Justice. 26 *Cardozo Law Review*, 1179, 1270 (highlighting utilitarianism’s “the greatest good for the greatest number” principle).

³³ See, e.g., Teson, T.R. (1992, January). The Kantian Theory of International Law. 92 *Columbia Law Review*, 53, 54 (explaining that “the end of international law must also be to benefit, serve, and protect human beings, and not its components, states and governments”).

³⁴ Waldron, J. (1996, May). Kant’s Legal Positivism. 109 *Harvard Law Review*, 1535, 1536 (“attempt[ing] to interpret and, in places, to reconstruct (Kant’s) understanding of disagreement and (Kant’s) argument for the paradoxical claim that each person doing what seems right to him is tantamount to that person’s renouncing the concept of right altogether”) (citing Immanuel Kant, *Metaphysical First Principles of the Doctrine of Right*, in *The Metaphysics of Morals* 124 (1991)).

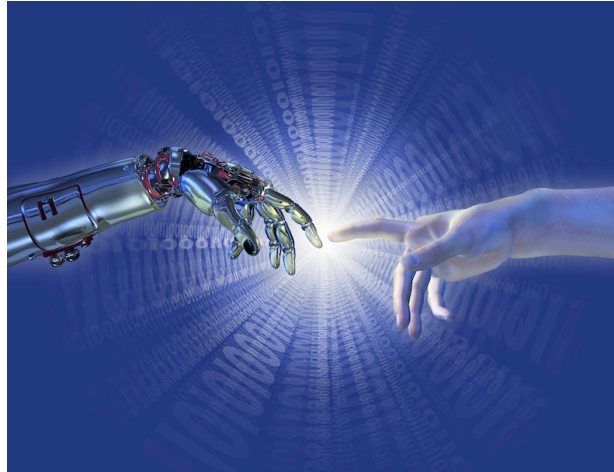
³⁵ *Id.* (examples include executing murderers or returning property “to its rightful owner no matter what the consequences”).

³⁶ *Id.* (citing Immanuel Kant, *On a Supposed Right to Lie from Altruistic Motives*, in *Practical Reason and Other Writings in Moral Philosophy* 346-48 (1949)).

³⁷ Note, economics and moral relativism may be a subordinate conflict to designing a PcE robot since the interests underlying economic value maximization and relativistic ethical norms may conflict. See, e.g., Robert Skidelsky & Edward Skidelsky, *How Much is Enough? Money and the Good life* 13 (2012) (stating that “ethical certainty, ethical knowledge, and even ‘truth’ rest ultimately on irreducible, but relative, footings”; note also, “perhaps the chief intellectual barrier to realizing the good life for all is the discipline (domain) of economics . . . the study of efficient means to ends . . .”).

³⁸ *U.N. Business Beta, Corporate Responsibility and the Global Impact*. Retrieved from <http://business.un.org/en/documents/csr> (last visited Nov. 7, 2013) (explaining that “many terms have emerged in

CSR is: “The ethical behavior of a company towards society.”⁴⁰ Further, a general CSR policy may be to “do well by doing good.”⁴¹



Here, CSR seems to be a good start to conceptualize how a corporate actor (y variable) functions via PcE (x factors or variables). CSR may be a proxy to measure whether an AI-related corporate entity produced ethical outcomes. Economically (EC),⁴² a robot could be programmed for revenue generation, for example.⁴³ Emotionally (EI), the robot's designer may be joyful from producing ethical AI, in addition to earning income for the robot, for example. Socially, the robot (hopefully) functions in civil society for ethical reasons, such as functions that do not cause harm to a human or property, for example (SJ).⁴⁴ Environmentally (ENV), the

recent years to describe the environmental and social responsibility of business: corporate responsibility, corporate citizenship, corporate sustainability, to name just a few”).

³⁹ World Business Council for Sustainable Development. (2000, January). *Corporate Social Responsibility: Making good business sense* 1, 3. Retrieved from <http://www.wbcsd.org/pages/edocument/edocumentdetails.aspx?id=83&nosearchcontextkey=true> (last visited Oct. 29, 2013).

⁴⁰ World Business Council for Sustainable Development, Corporate Social Responsibility, Meeting Changing Expectations, <http://oldwww.wbcsd.org/docroot/hbdf19txhmk3kdx bqdw w/csrmeeting.pdf> (promoting CSR as guidance for companies to maintain their “license to operate” in a global business environment).

⁴¹ U.S. Department of State, Office of Economic Policy Analysis & Public Diplomacy. *Corporate Social Responsibility*. Retrieved from <http://www.state.gov/e/eb/eppd/csr/> (last visited Nov. 6, 2013) (CSR-related goals include: “building economic security and fostering sustainable development at home and abroad”; “guidance and support for American companies engaging in socially responsible, forward-thinking corporate activities that complement U.S. foreign policy and the principles of the Secretary’s Award for Corporate Excellence (ACE) program . . .”).

⁴² See also, e.g., Coase, R. (1937, November). The Nature of Firm. *Economica*, 4(16), in *Course Readings* 386 (noting how “firms exist in a specialized exchange economy in which it is generally assumed that the distribution of resources is ‘organized’ by the price mechanism”).

⁴³ See, e.g., Arendt, H. (1958). The Human Condition. Chicago: *University of Chicago Press*, 136; 143-144 (2d. ed.) (explaining that the “mark of fabrication” is that it has a “definite beginning” and a “definite, predictable end”; also noting that “work of our hands . . . [may be] objects for use and they possess the durability *Locke* needed for the establishment of property, the ‘value’ *Adam Smith* needed for the exchange market, and they bear the testimony to productivity, which *Marx* believed to be the test of human nature” (emphasis added)).

⁴⁴ See, e.g., Zax, D. (2001, November). *Meet Toyota’s Robotic Nurses*. Massachusetts: MIT Technology Review. <http://www.technologyreview.com/view/426090/meet-toyotas-robotic-nurses/> (last visited Nov. 7, 2013) (“Patient Transfer Assist” is “like a robotic assistant nurse that helps a patient move from one place to another.”).

robot may also be a comparative or competitive advantage by producing less (hazardous) waste than a similarly situated human, and all else being equal, for example.⁴⁵ Consequently, the AI-related corporate entity should benefit society,⁴⁶ rather than hurt human being(s) (economically or emotionally, EC or EI), and the societies that individuals live in (environment, ENV) and among (social, including justice, SJ).

Lastly, an attack on PcE is probable.⁴⁷ The skeptic may decide not to attack PcE strictly on theoretical grounds because this brief introduction of PcE shows a general union of respected theories related to corporate activity: Negotiation, “triple bottom line,” utilitarianism and CSR.⁴⁸ In other words, PcE may be a general approach to “deal” with robotic means (inputs) for ethical outcomes, such as CSR (outputs). The main challenge may be based on whether PcE can mathematically control (ethical) AI programming. For instance, with regard to attaching numerical values to PcE, how can software coding actually produce optimal ethical outcomes under the PcE framework? One very brief rebuttal may be that statistical evidence by itself may not prove or disprove a theory.⁴⁹

In sum, this part introduced a concept⁵⁰: PcE is a general blueprint, which includes five categories, to organize what may be “ethical corporate practices,” such as CSR related to AI. Further, PcE may be a means for the design of a Morality System Governing Artificial Intelligence (MS-GAI).⁵¹

⁴⁵ See, e.g., Bergson, R. (2013, November). *Your personal \$849 underwater 'drone'*. Cable News Network. <http://www.cnn.com/2013/11/06/tech/innovation/underwater-drones/index.html?c=tech> (“OpenROV, is a submarine-like robot that you control with your laptop. It gives scientists, explorers and other users a glimpse of what lies below the surface, without them getting wet.”).

⁴⁶ See, e.g., Naam, R. (2013). *The Infinite Resource: The Power of Ideas on a Finite Planet*. Hannover and London, University Press, 12, 20, 30 (noting that we “live in a world where people live longer than ever before, with greater health, less disease, more comfort, more ability to travel, more education, more access to information and communication, more food, less hunger, less poverty, and more freedom than at any point in our history”).

⁴⁷ See, e.g., Lake, P.F. (1994). Posner’s Pragmatist Jurisprudence. *73 Nebraska Law Review*. 545, 612 (stating that “when we reduce theoretical claims to their essence of ideology and science, we come to a mutable place; therefore, there is no argument that could insulate any theory from scrupulous, even ferocious examination”).

⁴⁸ See, e.g., Boghossian, P. (2007). *Fear of Knowledge Against Relativism and Constructivism*. Oxford & New York: Oxford University Press, 72-80 (Noted, “[i]t is rare for [a] philosophical idea to command widespread acceptance in the broader intellectual community of the academy; philosophy, by its nature, tends towards claims of a scope and generality that invite controversy.”).

⁴⁹ See also, e.g., Capaldi, N. & Smit, M. (2007). *The Art of Deception: An Introduction to Critical Thinking*. New York: Prometheus Books, 165-166 (noting that “not even the most sophisticated statistical analyst has been able to define a random sample”).

⁵⁰ See, e.g., Kurzweil, *supra* note 8, at 5-7 (Pattern Recognition Theory of the Mind (PRTM) derives from establishing: (1) a pattern, (2) its size and (3) its importance)).

⁵¹ Note, symbolism behind MS -- GAI -- includes “Ms.” or “Miss” “Mother Nature” since human nature may ultimately depend on a female or transgendered female, who is a “mother figure” for children of the human species. Note also, Artificially Intelligent Morality™ (“AIM”) may be another way to phrase a PcE robot under MS-GAI.

III. “SCIENCE.” TRUST ARTIFICIAL INTELLIGENCE?

This part is consistent with the position that after introducing the (PcE) ideology, science (in the form of AI robotics) can help prove the rationality of a theory.⁵² Artificial Intelligence, the (fifth) PcE category, is “real,”⁵³ but should we “trust” AI in its “robotic form”?

After the “Age of Noise,”⁵⁴ some may believe that human beings may continue to (laboriously) control civilizations, including its markets,⁵⁵ until AI can mimic,⁵⁶ be equivocal to, and exceed human capabilities during our current “Digital Age”⁵⁷ and beyond. AI that “matches” (normal) human cognitive abilities (“Human-level AI”)⁵⁸ is approaching due to decades of exponential growth of computer algorithms that now rule our daily life.⁵⁹

Science may clarify some of the abstractions involved here.⁶⁰ One definition of “science” is: “Any organized body of knowledge that is possessed of first principles.”⁶¹

Briefly, the (first) key principle here is computation, which AI and a robot depend on. A computer’s operations⁶² or “innate *universality* (subject only to its capacity)” derives from the

⁵² See Lake *supra* note 47, at 546, 611 (noting that “[p]ragmatism ‘shifts the emphasis in the philosophy of science from the discovery of nature’s laws by observation to the formulation of theories about nature (including man and society) on the basis of man’s desire to predict and control his environment, both social and natural’”).

⁵³ See, e.g., Barrat, *supra* note 3, at 126 (noting that “‘it’s certainly possible that a *real* living (artificial general intelligence) could emerge on the financial markets’” due to the financial markets’ “unintended consequence of creating computational (finance) models of large numbers of humans”) (quoting Dr. Alexander D. Wissner-Gross, who also explains that “high frequency trading” may be a likely cause of AGI) (emphasis added)).

⁵⁴ See, e.g., Huxley, A. (1945). *The Perennial Philosophy: An Interpretation of the Great Mystics, East and West*. New York: HarperCollins Publishers, 218 (Note, the “Age of Noise” arose during the 20th century since “physical noise, mental noise and noise of desire” combined with “miraculous technology (thrown as an) assault against silence.”)).

⁵⁵ See, e.g., Naam, *supra* note 46 (noting that the “brilliance of the market is that it rewards workers (including innovators) for producing things that others value”).

⁵⁶ See, e.g., Larson, E. (2013, November). Meet the Robots Reading Your Resume. *Mashable*. Retrieved from <http://mashable.com/2013/11/11/resume-robots/> (last visited Nov. 23, 2013) (referencing “Applicant Tracking System” (“ATS”), which is a software program that organizations use to “sift through online resume submissions”).

⁵⁷ See, e.g., Schmidt, E. & Cohen, J. (2013). *The New Digital Age: Reshaping the Future of People, Nations and Business*. New York & Canada: Random House, 13, 212 (forecasting that “soon everyone on Earth will be connected, and with five billion more people to join the virtual world, the boom in digital connectivity will bring gains in productivity, health, education, quality of life and myriad other avenues in the physical world – and this will be true for everyone, from the most elite users to those at the base of the economic pyramid”).

⁵⁸ Barrat, *supra* note 3, at 17 (also known as “Artificial General Intelligence” (“AGI”); “shortly after (making AGI), someone or (some thing) will create an AI that is smarter than humans, often called artificial superintelligence (ASI)”).

⁵⁹ Steiner, C. (2012) *Automate This: How Algorithms Came To Rule Our World*. New York: Penguin, 112 (noting that enablers are “wondrous code(s)” and “telecommunications infrastructure”).

⁶⁰ Robinson, D.N. (2007). *Introduction*, in Bennett et al., *supra* note 9, at ix, 6-7 (stating that “[s]cientific precision, or for that matter, arithmetic precision, may tell us next to nothing about just what has been assayed with such precision”).

⁶¹ McInerney, D.Q. (2005). *Being Logical: A Guide to Good Thinking*. New York: Random House, Inc., 25. (explaining that first principles include: Identity; Excluded Middle; Sufficient Reason; Contradiction).

⁶² Kurzweil, *supra* note 8, at 81, 184-185, 190-191 (In addition to referencing von Neumann, who “conceptualized and articulated the key principles of a computer as we know it today”, computation has been described as a

algorithms that a human programs into computer related technology.⁶³ Complex (AI) systems are built on digital computers.⁶⁴ A common example is the Internet.⁶⁵ Software programming⁶⁶ supports Internet usage, which derives⁶⁷ from logic programming⁶⁸ or parallel programming.⁶⁹ The Internet⁷⁰ can then be used to build and manage a robot.⁷¹

Although robots (R-1 (a General Robot) or R-2 (a Social Robot)) particularly exist due to the “Universality of Computation”⁷² and the Law of Accelerating Returns (“LOAR”)⁷³, there may be uncertainty over whether an algorithm can transform a computerized system into a technology that is equivalent to a human’s cognitive power.⁷⁴ Industries capitalize on the fact that “machine learning” occurs in a computer to improve its



derivative of three elements: Communication, Shannon’s theorem and the Universality of Computation. To elaborate: Communication is “pervasive within and between computers – memory and logic gates (which perform the arithmetic and logical functions)”; Shannon’s theorem involves “why we can handle arbitrarily large and complex digital data and algorithms without the process being disturbed or destroyed by errors.”).

⁶³ *Id.* at 181 (emphasis added).

⁶⁴ Shasha D. & Lazere, C. (2010). *Natural Computing: DNA, Quantum Bits, and the Future of Smart Machines*. New York: W.W. Norton & Company, Inc., 12, 76, 87 (explaining that “computers are most successful at rapidly performing the skills learned in the last few hundred years of human history, perhaps because we are most conscious of those skills and they take the most conscious effort”).

⁶⁵ *Id.* at 201 (explaining that the Internet depends on digital machines that process text efficiently and effectively; distinguishing digital computing (which allows for data processing, such as storing information) and analog computing (which is better for “finding visual patterns, modeling physical processes, and controlling machines”).

⁶⁶ *Id.* at 176 (explaining that “brevity for the human programmer is only one of the benefits” of using multiple computer programming languages since this “helps the machine compiler . . . translat[e] the language commands into codes that the machine can understand directly”).

⁶⁷ *Id.* at 32 (noting that “changing software is a little like heart surgery [because] [y]ou want everything in place before you wake the patient”).

⁶⁸ *Id.* at 199 (referencing Jonathan Mills’ thesis, logic programming involves a software programmer “stat[ing] constraints on a solution instead of how to arrive at a solution”).

⁶⁹ *Id.* at 160 (explaining that parallel programming allows us to get the most out of machines that use multicore processors, which increase “clock speed” but limits the “power level that would endanger the integrity of the circuits”).

⁷⁰ See, e.g., Baggin, J. & Fosl, P.S. (2010). *The Philosopher’s Toolkit, A Compendium of Philosophical Concepts and Methods*. United Kingdom: Wiley-Blackwell, 60 (2d. ed.) (noting that the “mystery” of the Internet is not whether it exists, but how it is broken down into its expansive activities that it comprises).

⁷¹ See generally Cook, D. (2010). *Robot Building For Beginners*. New York: Springer-Verlag New York, Inc. (describing the feasibility and the details of building a robot at the consumer level).

⁷² Kurzweil, *supra* note 8, at 184-185 (referencing the Turing machine as the limit, the “Universality of Computation,” coined or synthesized by Kurzweil, involves “the basic idea . . . [that] the human brain is likewise subject to natural law, and its information-processing ability cannot exceed that of a machine . . .”).

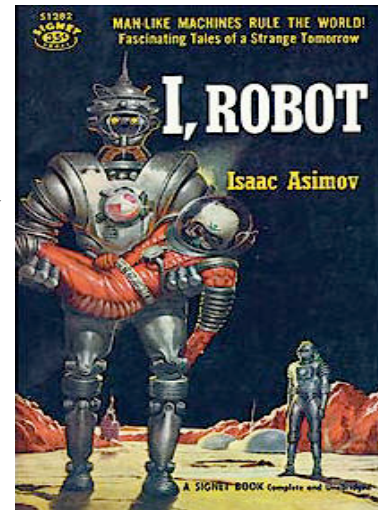
⁷³ *Id.* at 251 (explaining that LOAR applies whenever information technology is a factor, and that “computation is the most important example of the LOAR because of the amount of data we have for it, the ubiquity of computation and its key role in ultimately revolutionizing everything we are about”). See also, Barrat, *supra* note 3, at 138, 162 (noting that “Ray Kurzweil’s (‘positive’) Singularity” -- “doesn’t require an intelligence explosion” due to the focus on LOAR; also indicating that Kurzweil uses or emphasizes: (1) Three technologies (genetic engineering, nanotechnology, and robotics), and (2) LOAR that “guarantees the continued exponential growth of information technologies, including world changing ones like AGI, and later ASI”)).

⁷⁴ *Id.* at 181.

performance over time,⁷⁵ which has been incorporated into an actual robot.⁷⁶ As a result, AI empowers computers to master skills without human assistance, even though AI robots may not (yet) physically perform like humans.⁷⁷ While the specific date that a robot will be as “smart” as a human being is unknown,⁷⁸ a forecast includes that a personal computer (at an estimated cost of \$1,000) should match a human’s brain by 2019.⁷⁹ Sooner rather than later, “connecting” corporate ethics-related issues (e.g. EC, ENV, SJ, EI relationships) may be very important when communicating about how best to govern or manage the AI market (“best practices”).⁸⁰

To elaborate, as a means to capitalize (EC) on AI or reduce risk (EC, ENV or SJ) with AI, an AI programmer may try to produce a social (friendly) robot by focusing on the emotional (EI) interests and social (SJ) issues of PcE. The programmer may start by recognizing Asimov’s three laws.⁸¹ Asimov proposed the following rules, which may theoretically control a robot (set in sequential order and thereby order matters): (1) It cannot harm a human being; (2) It must obey human beings; (3) It must protect itself.⁸²

How can we be sure that these rules will be followed? Will the robot follow this order and not choose itself (Asimov Law #3) over the interests of a human (Asimov Laws #1 or #2)?



At the intersection of philosophy and psychology, a response may be based on whether a robot can be trusted to satisfy MS-GAI principles, which may be organized under PcE and be

⁷⁵ Barrat, *supra* note 3, at 73 (For example, “Amazon uses a machine-learning technique called affinity analysis” with the strategy to induce customers to buy similar products.).

⁷⁶ See, e.g., Ryall, J. (2013, September). Japan’s Kirobo Robot Takes “One Small Step”. *The Telegraph*. <http://www.telegraph.co.uk/science/space/10288058/Japans-Kirobo-robot-takes-one-small-step.html> (last visited Nov. 20, 2013) (*Kirobo* is Japan’s robot that is operating in outer space; from space it is able to communicate with human beings on earth and is considered to have reached a level of learning).

⁷⁷ Kurzweil, *supra* note 8, at 168, 181 (A computer’s “intellectual exercises” can include solving mathematical problems, diagnosing disease, playing chess (IBM’s *Deep Blue*). Currently, robots such as IBM’s *Watson* can understand natural language (to win *Jeopardy!*), and IBM’s partnership with *Nuance* is underway to create a robot that is storing all medical knowledge for medical diagnosis.) See also, Barrat, *supra* note 3, at 23-25 (stating that “few (robots) have more than a crude ability to get around and manipulate objects autonomously.” For example, challenges include “controlling a robot tying shoelaces or with understanding the commonsense language that a five-year old child could comprehend.”).

⁷⁸ Kaku, M. (2012). *Physics of the Future: How Science Will Shape Human Destiny and Our Daily Lives by the Year 2100*. New York & Canada: Doubleday, 133 (proffering six reasons why robots will become smarter before the year 2100).

⁷⁹ *Id.* at 117 (by 2029 that \$1,000 computer will be “1,000 times more powerful than a human brain”); see also, Kurzweil, *supra* note 8, at 193 (explaining that one reason for the estimated advantage over the human brain is that a computer can have “far greater plasticity” (than a human brain) since a computer can “restructure its methods by changing its software”).

⁸⁰ Kaku, *supra* note 78, at 121 (noting that the “military is by far the largest funder of AI systems,” which are “specifically designed to hunt, track, and kill humans” efficiently).

⁸¹ See generally, Asimov, I. (1950). *Runaround. I, Robot*. New York: Bantam Dell.

⁸² Kaku, *supra* note 78, at 121.

particularly rooted to Asimov's first two laws. The "emotional intelligence" (EI) of the human beings involved, and the robot(s) in question, is an issue that may be associated with the level of trust.

Whether a cybernetic robot could (eventually) have "feelings" may be debatable.⁸³ One position may be that AI cannot think or be conscious,⁸⁴ and therefore it may be ambivalent to a human being's happiness.⁸⁵ Alternatively, if a robot is programmed to help a human being, then there may be no harm.⁸⁶ For example, "social robotics" or "friendly AI" is a category of benevolent robots.⁸⁷ Ethics-based concepts, such as PcE attached to MS-GAI, may nevertheless be necessary when transporting "beingness" through time via "personal[ized] cyberconsciousness,"⁸⁸ which can likely arise from the concept of a "beme."⁸⁹

"Trust" in a corporate forum, where robots are produced and consumed, may likely be a fundamental factor for the sustainability of the robotics industry.⁹⁰ Good news for the industry may be that humans are generally more trusting than what may be perceived in a capitalist or market-based system.⁹¹ This viewpoint may be a start for "positive" forecasts about "human-to-robot relations;" yet, the degree of reliance on robotics may depend on evaluating AI's corporate reputation relative to PcE's -- MS-GAI -- framework including Asimov's laws.⁹² For example, PcE-related software might produce an "ethical virtual friendly robot" ("eVFR")⁹³ that acts

⁸³ See, e.g., Barrat, *supra* note 3, at 100, 266 (stating that "AGI version 2.0" will exist when scientists "computationally model feelings").

⁸⁴ *Id.* at 32, 45, 50, 170 (citing John Searle and his "Chinese Room Argument" experiment; explaining that while some categorize Mr. Searle as "computerphobic," Searle is "correct in thinking that AGI won't be like us" due to "being full of computational techniques whose operation no one fully understands").

⁸⁵ See, e.g., Kahneman, D. (2011). *Thinking Fast, and Slow*. New York: Farrar, Starus & Giroux, 308 (Note, a human brain is "not designed to reward generosity as reliably" as when the human decides to "punish meanness." Further, "[p]leasure centers" increase in their activity at times of altruistic punishment; signaling "the glue that holds societies together.")).

⁸⁶ KAKU, *supra* note 78, at 121.

⁸⁷ See, e.g., Barrat, *supra* note 3, at 51 (Note, Eliezer Yudkowsky of the Machine Intelligence Research Institute (MIRI) probably coined "Friendly AI.").

⁸⁸ See generally Terasem Movement, Inc.

⁸⁹ Rothblatt, M. (2006). On Genes, Memes, Bemes, and Conscious Things. *1 Journal Of Personal Cyberconsciousness*. ("Bemes are fundamental, transmissible, mutable units of beingness" that are "highly individual elements of personality, mannerisms, feelings, recollections, beliefs, values, and attitudes." Bemes are also "very much in the spirit of memes," although distinguishable because "memes are culturally transmissible elements that have common cultural meanings . . .").

⁹⁰ See, e.g., Blair, M. & Stout, L. (2001). Trust, Trustworthiness, and the Behavioral Foundations of Corporate Law. *149 University of Pennsylvania Law Review*, 1735, 1735-80 (Noted, while a "corporation is a collective enterprise," trust functions as an external and internal constraint on opportunistic behavior. Further, trust as a behavior is defined with three characteristics: (1) two actors are involved (the one who trusts and the another who is trusted by the trusting actor); (2) the trusting actor must be affirmatively vulnerable to the actor who is being trusted in a situation that the trusted actor could act opportunistically to the disadvantage of the one who is trusting; (3) the trusting actor must believe or expect that the other person will act "trustworthily.")).

⁹¹ *Id.* (noting that trust is a reality and the act of trusting is generally not random).

⁹² Greenspan, A. (2008). *Age of Turbulence*. London: Penguin, 255-256 (From a premise that "in a free society governed by the rights and responsibilities of its citizens, the vast majority of transactions must be voluntary, which, of necessity, presupposes trust in the word of those with whom we do business -- in almost all cases . . . '[r]eputation and the trust it fosters have always appeared to me to be the core required attributes of market capitalism.'").

⁹³ Ferencstein, G. (2013, January). Google's New Director Of Engineering, Ray Kurzweil, Is Building Your 'Cybernetic Friend'. TechCrunch. <http://techcrunch.com/2013/01/06/googles-director-of-engineering-ray-kurzweil->

according to ethical (PcE) maxims or norms, such as functioning competently⁹⁴ or preventing a lie⁹⁵ (SJ-related output). Likewise, predicting whether AI can be trustworthy may depend on believing that an ethics-based code should be tailored to AI, such as “PAPA,”⁹⁶ which may then be one subset of PcE’s general dynamics.

IV. A BRIEF LEGAL EXPERIMENT

Now the focus is on beginning to show legal relationships related to a (PcE) robotics contract. The contract is between a principal and the principal’s agent, the (fundamental) right to privacy, and the equitable estoppel doctrine. The hypothetical facts involve two situations. First, if a principal (investor) and an agent (robotics management company) agree that the agent will protect the privacy of the information that the robot stores or uses, and if the agent fails to perform this “obligation” (an unethical act), an option may be to file a claim in *federal* court based on constitutional grounds. Second, if for example, the federal judge does not grant supplemental jurisdiction (28 § U.S.C. 1367(c) (1990)) for the breach of contract claim, only remedies at the state level may be available. Furthermore, the underlying purpose here is to show that appreciating actual *facts* related to robotics is meaningful because, for example, the proof of an equitable estoppel, particularly the element of detrimental reliance, turns on factual circumstances. In addition, this part ends with a “call” for a debate about how best to administer justice related to “robotics novelty.”

To start, an agency relationship may include the situation where a principal engages the agent to perform for the principal in some capacity.⁹⁷ For example, a contract between a principal (e.g. investor in a robotics corporation) and an agent (e.g. the robot’s corporate owner or its managing entity) may be formed to design and produce a (PcE) robot for consumption. When forming such a contractual relationship, risk management becomes a key issue that may be conceptualized as “how great the risk is, who will bear it, and who is in the best position to bear it.”⁹⁸ The negotiation of how to manage the risk may have been to “make sure” that the robot acts ethically under MS-GAI via PcE.⁹⁹

is-building-your-cybernetic-friend/ (last visited Dec. 21, 2013) (Ray Kurzweil “wants to build a search engine so sophisticated that it could act like a ‘cybernetic friend,’ who knows users better than they know themselves . . . envision(ing) in some years that the majority of search queries will be answered without you actually asking.”).

⁹⁴ Life Naut Project. (2013, July). *TedTalks*. Retrieved from <http://www.youtube.com/watch?v=DZB-7-InneY> (last visited Dec. 22, 2013) (showing that a human’s thoughts can be stored virtually, and a robot can communicate the thoughts when responding to random questions).

⁹⁵ Shell, G.R. (2006). *Bargaining for Advantage*. London: Penguin Books, Ltd. p. 213. (noting that “courts are sympathetic to those who, in good faith, rely on others to treat them fairly in the negotiation process . . .”).

⁹⁶ Lin et. al., *supra* note 7 (at Kindle Loc. 195) (noting that roboethicists suggest that roboticists should apply PAPA (*privacy, accuracy, intellectual property and access*) as an ethical code)).

⁹⁷ See Jenson, M.C. & Meckling, W.H. (1976, October). Theory of the Firm: Managerial Behavior. 3 *Journal of Financial Economics*, 35, 36-43 (A principal generally delegates some decision-making authority to the agent.).

⁹⁸ Jackson, H.E., et al. (2003, October). *Analytical Methods For Lawyers*. Minnesota: West Academic Publishing, 88-89, 93-95 (Generally, a principal-agency relationship is formed from one of three types of contracts: (1) *Performance-based* contract, which “depends on productivity as measured by some specific criterion” (agent bears the risk); (2) *Input-based* contract, which is based on “time spent;” or (3) *Fixed-fee* contract, which includes an agent being “paid a stipulated amount for performing a service” (agent generally bears “little or no risk.”)).

⁹⁹ Note, a *Morality System Governing Artificial Intelligence Liability* (“MS-GAIL”) is also coined.

Risks, such as the mismanagement of the personal information of a robot's end-user, may then lead towards inquiring into legal issues depending on the relationship between relevant facts and sources of law.¹⁰⁰ This legal experiment involves the principal filing for a preliminary injunction against its agent.¹⁰¹ The injunction turns on the fact that the agent agreed in writing not to breach the privacy of the end-users or consumers of its (PcE) robots,¹⁰² and therefore the principal seeks legal protection from (potential) liability.

Briefly, the principal's complaint in *federal* court is based on the "right to privacy."¹⁰³ Let's first assume that the U.S. federal court administering the case granted original federal question jurisdiction¹⁰⁴ over the Plaintiff-Principal's privacy claim, and the court subsequently denied the Defendant-Agent's Motion to Dismiss.¹⁰⁵ While thoughts about the intersection between robotics and the law may be filled with generalities,¹⁰⁶ uncertainty¹⁰⁷ is also at play here concerning a court ordering an injunction or refusing to grant the (temporary) remedy.¹⁰⁸

The Plaintiff's "corporate lawyer"¹⁰⁹ may then file for *supplemental jurisdiction*.¹¹⁰ In particular, under 28 U.S.C. § 1367(c)(1):

¹⁰⁰ For reference, see Restatement (Second) of Agency. (1958). §§ 145, 159.

¹⁰¹ Note, justiciability arguments are not included in this brief legal experiment.

¹⁰² See, e.g., MacNeil-Lehrer Productions. (2013, Apr.). Use of Non-Military Drones Raises Privacy Concerns. *USA: PBS NewsHour*. Retrieved from http://www.pbs.org/newshour/extra/daily_videos/use-non-military-drones-raises-privacy-concerns/ (last visited Nov. 7, 2013).

¹⁰³ See, e.g., *Klayman et al. v. Obama*, No. 13-0851 & No. 13-0881 (D.D.C. 2013) (holding that the U.S. government shall not collect the telephony metadata (of these claimants) without a warrant); see generally *The Electronic Communication Privacy Act of 1986 ("ECPA")* (allowing for a cause of action for actual and punitive damages, in addition to attorney fees); see also, e.g., *Griswold v. Conn.*, 381 U.S. 479, 484 (1965).

¹⁰⁴ See, e.g., *Gunn v. Minton*, 133 S.Ct. 1059, 1065 (2012) (quoting *Grable & Sons Metal Products, Inc. v. Darue Engineering & Mfg.*, 545 U.S. 308, 313-314 (2005) (concerning federal jurisdiction, the Court in *Grable* held that the "case warrants federal jurisdiction" because if not "it will be the rare state [real property] title case that raises a contested matter of federal law," "[and therefore] federal jurisdiction to resolve genuine disagreement over federal tax title provisions will portend only a microscopic effect on the federal-state division of labor"; "federal jurisdiction over a state law claim will lie if a federal issue is: (1) necessarily raised, (2) actually disputed, (3) substantial, and (4) capable of resolution in federal court without disrupting the federal-state balance approved by Congress.").

¹⁰⁵ See, e.g., 28 U.S.C. § 1331 (1980) (A plain meaning of § 1331 is that federal district courts have original jurisdiction over "all civil actions arising under the Constitution, laws, or treaties of the United States.").

¹⁰⁶ See, e.g., *Calo*, *supra* note 7 (focusing on direct surveillance, increased access to robotics, and the social meaning of a robot).

¹⁰⁷ See, e.g., *Jennings v. Broome*, 401 S.Ct. 1 (2012), *cert. denied*, 133 S.Ct. 1806 (2013) (The state court had held that the ECPA, particularly the Stored Communications Act, did not apply because a husband's emails to his girlfriend were not "electronic storage," and therefore protection was not extended to emails stored on remote computer servers.).

¹⁰⁸ See, e.g., *U.S. v. Warshak*, 631 F. 3d 266, 332-333 (6th Cir. 2010) (particularly holding that a reasonable expectation of privacy is attached to the relationship between an Internet Service Provider (ISP) and an individual who sends emails, and therefore a government agent may violate the Fourth Amendment of the U.S. Constitution, without obtaining a warrant prior to obtaining the emails for evidence)).

¹⁰⁹ See, e.g., Easterbrook, F. H. & Fischel, D. (1991). *The Economic Structure of Corporate Law*. Massachusetts: Harvard University Press, 26 ("The role of corporate law at any instant is to establish rights among participants in the venture.").

¹¹⁰ See 28 U.S.C. § 1367 (Noted, a "state-law claim necessarily raises a stated federal issue, actually disputed and substantial, which a federal forum may entertain without disturbing any congressionally approved balance of federal and state judicial responsibilities.").

“The district courts may decline to exercise supplemental jurisdiction over a claim under subsection (a) if -- (1) the claim raises a novel or complex issue of State law[.]”

This statute, on its face, may (theoretically) bar the contracts-based claim due to the *novelty* of AI.¹¹¹ The “well-pleaded complaint rule”¹¹² may also be difficult to satisfy. As a result, the breach of contract action, which is fundamentally tied to the privacy claim, may be dismissed, and therefore the Plaintiff would likely depend on a remedy from a state court. Is this sufficient judicial administration?

Moving into state court, the principal may particularly have to counter the agent’s defense of an *equitable estoppel*, notwithstanding other remedies.¹¹³ The end goal of using the equitable estoppel doctrine is to win a defense judgment by “[d]oing equity”¹¹⁴ because an estoppel is an equitable doctrine invoked to avoid injustice.¹¹⁵ This type of estoppel may be broad since there is no universal textual meaning for it.¹¹⁶

To illustrate: (i.) Corporation #1 made a representation or a promise to Corporation # 2; (ii.) it was reasonable for Corporation # 2 to rely on the representation or the promise; (iii.) Corporation #2 acted to its detriment due to the reasonable reliance indicated in Step 2; (iv.) Corporation #1 had knowledge or should have known that Corporation #2 would act the way it acted in Step 3.¹¹⁷ If Corporation #1 (Plaintiff-Investor) sued Corporation # 2 (Defendant-Robotics Management Co.) based on a breach of contract claim, and the reliance of Corporation #2 (Step #1 and Step #2) is related to the cause of action, counsel for Corporation # 2 may choose to include the equitable estoppel doctrine as part of the defense.

Generally, the proof of an equitable estoppel may be a four-part test.¹¹⁸ The general proof may require: (i.) a clear and definite promise¹¹⁹; (ii.) the promisor *reasonably* expected that

¹¹¹ Note, an analysis of “removal jurisdiction” under 28 U.S.C. § 1441(a) (2011) is not included here.

¹¹² See, e.g., *Louisville & Nashville R.R. Co. v. Mottley*, 211 U.S. 149, 152-154 (1908) (reversing and remanding for lack of federal jurisdiction since the cause of action did not show that it arose from the constitution or laws of the U.S., and the plaintiff cannot prove this by stating “what the defense of defendants would be, and complainant’s answer to such defense”).

¹¹³ See, e.g., *Cresvale International Inc. v. Reuters Am., Inc.*, 257 A.D.2d 502 (N.Y. App. Div. 1999) (a breach of a contractual obligation may lead to tort liability related to third parties in certain circumstances).

¹¹⁴ Anenson, T.E. (2008, November). *The Triumph Of Equity: Equitable Estoppel In Modern Litigation*. 27 *Review Litigation*. University of Texas at Austin, 377, 410-411 (Note, “[w]hile the notion of equating law with science was discredited long ago . . . [f]or every element or issue there is an equal and opposite element or issue . . . [and this] chaos allows equitable estoppel to stand out in bold relief against more static legal defenses.”).

¹¹⁵ *Heckler v. Community Health Services of Crawford County, Inc.*, 467 U.S. 51, 59-60 (1984) (Note, “the party claiming the estoppel must have relied on its adversary’s conduct in such a manner as to change his position for the worse and that reliance must have been reasonable in that the party claiming the estoppel did not know nor should it have known that its adversary’s conduct was misleading.”).

¹¹⁶ Anenson, *supra* note 114, at 407 (stating that conflicting cases exist “on nearly every point of inquiry”).

¹¹⁷ *Id.*

¹¹⁸ See generally Pitcher, S.R. (2013, December). *Detrimental Reliance on Promise*. 4 *Am. Jur. Proof of Facts* 2d, 641. Thomson Reuters. (WestlawNext, Database) (Note, “equitable estoppel is available only as a defense”; it is different than a promissory estoppel. Note also, if “the party asserting estoppel as a defense (who has the initial burden of proof) establishes a prima facie case of estoppel, the burden shifts to the opposing party, who must [then prove the] mitigating circumstances excusing him from the operation of estoppel.”).

¹¹⁹ See, e.g., *Wilson v. Cox*, 828 F.Supp.2d 20 (D.D.C. 2011) (a promise is necessary, although it may not be specific and definite).

their offer will induce a promise to act or forbear; (iii.) the promisee thereby actually and *reasonably* performed the action or forbearance; and (iv.) this caused a *detriment* to the promisee, who relied on the promisor's representation (promise).¹²⁰ Therefore, a reasonableness standard may apply to the circumstances associated with the promisor (Corporation #1) and the promisee (Corporation #2).¹²¹

To elaborate, *detrimental reliance*¹²² on "the adverse party's misrepresentations" is "[a]n essential element of any estoppel."¹²³ Detrimental reliance on a promise is a question of *fact* arising from a breach of contract claim, or when suing in equity for specific performance.¹²⁴ Courts generally welcome creative arguments for its proof because: there is "no hard and fast rules" to the meaning of reasonable reliance;¹²⁵ under the law of equity¹²⁶ "there is no general principle that 'detrimental reliance' must be proved" unless specific remedy imposes a requirement;¹²⁷ and its general policy argument is rooted to "fair play."¹²⁸ Nonetheless, litigators "should show and not tell" when performing the art of persuading a court.¹²⁹

Case law also shows that a court will likely evaluate the nature of the written or oral agreement.¹³⁰ For example, an enforceable contract may be a bar,¹³¹ and the absence of an express written contract may be necessary.¹³² Furthermore, a case may turn on the issue of

¹²⁰ Pitcher, *supra* note 118 (In other words, "misreliance" is necessary.).

¹²¹ Anenson, *supra* note 114, at 389 (while reliance may be the most difficult hurdle to prove for an equitable estoppel claim, "some courts specify that the reliance be reasonable under the circumstances").

¹²² Pitcher, *supra* note 118 (Note, a legal issue may turn on whether the party claiming the estoppel (equitable or promissory) reasonably believed the promisor's representation and this reliance was detrimental, and therefore ignorance of the fact that a representation existed may not satisfy the proof, even if it is not required that action in reliance must be foreseen.)).

¹²³ Lyng v. Payne, 476 U.S. 926, 935 (1986) (following Heckler 467 U.S. at 59-61, a "private party surely cannot prevail without at least demonstrating that the traditional elements of an estoppel are present").

¹²⁴ *Id.* (Note, detrimental reliance in a breach of contract claim may be an affirmative cause of action for damages, or as an element in a defense. In contrast to an equitable estoppel, a "promissory estoppel rests on a promise to do something in the future.").

¹²⁵ Anenson, *supra* note 114, at 390 (noting that "[w]ithout reliance, estoppel extends to an infinite variety of situations because its operation no longer depends on a prior relationship between the parties to the lawsuit").

¹²⁶ *Id.* at 389 (noting that "[l]iberalization of estoppel in modern litigation has also removed reliance as a requisite to applying the defense").

¹²⁷ *Id.*; see also CIGNA Corp. v. Amara, 131 S.Ct. 1866, 1881-1882 (2011) (ruling that "when a court exercises its authority under § 502(a)(3) (of the Employment Retirement Security Act (ERISA)) allowing an ERISA participant or beneficiary to obtain 'other appropriate equitable relief' to impose a remedy equivalent to estoppel, a showing of detrimental reliance must be made").

¹²⁸ *Id.* at 391.

¹²⁹ *Id.* at 404.

¹³⁰ See, e.g., Ortek International Inc. v. Transpacific Tire Wheel, Inc., 704 F. Supp. 2d 499, 516-517 (D. Md. 2010) (A necessary condition may be that the parties must have agreed on or defined the duration of their agreement.).

¹³¹ See, e.g., Jay Dee/Mole Joint Venture v. Mayor & City Council of Baltimore, 725 F. Supp. 2d 513, 532 (D. Md. 2010) (An enforceable contract between the city and contractor barred the city's promissory estoppel claim against contractor.).

¹³² See, e.g., Carter v. Bank of America, 845 F. Supp. 2d 140, 146 (D.D.C. 2012) (Mortgage and home equity loan deeds of trust were express contracts between borrower and lender); see also, Plesha v. Ferguson, 725 F. Supp. 2d 106, 112 (D.D.C. 2010) (An express written contract between a lobbyist and a government contractor barred the theories of detrimental reliance, promissory estoppel, unjust enrichment or *quantum meruit*.).

“intent”¹³³ because the promisor’s willful statements or conduct generally evidences the mens-rea requirement.¹³⁴

Here, a “determina[tion] by totality of [the] individual’s situation”¹³⁵ may be difficult to grasp from this brief and “open ended” hypothetical. How a court may rule is an open issue (privacy claim is (temporarily) alive in federal court and a breach of contract claim is open in state court). Nonetheless, legal forums may be necessary to resolve conflicting interests since an agent may “ac[t] based on her personal ethical mores”¹³⁶ or according to the ethical preference of others.¹³⁷ At a minimum for example, maybe corporate counsel can prevent some clashes when dealing with novelty by deeply learning about AI-related facts associated with the terms and conditions of a “robotics contract.”



A final note: Legislation may be necessary to fully address the issue of “novelty” related to robotics. I proffer that the U.S. Congress can either amend § 1367(c)(1) by explicitly addressing “robots” or establish a “specialized court on robotics” (“SCOR”).¹³⁸ If “what the legislature doesn’t do may be as significant as what it does,”¹³⁹ the mitigation of risks may be a moral mandate.¹⁴⁰ One risk is that, for now, judicial administration may not have the (necessary and sufficient) “tools to combat” (possible) harms related to robots; we may then have to proceed

¹³³ Anenson, *supra* note 114, at 400-401 (stating that “the mental state of the party to be estopped can be good, bad, or in-between”, and bad faith or fraud is not a requirement to prove the element of intent).

¹³⁴ *Id.* at 399-400 (defining “willful” as “the action or inaction constituting estoppel [that] was taken with knowledge of the facts”).

¹³⁵ Lewin, K. (1952). *Field Theory In Social Science*. New York: Harper, 242 (In Lewin’s field theory, “a ‘field’ is defined as ‘the totality of coexisting facts which are conceived of as mutually interdependent’. Individuals were seen to behave differently according to the way in which tensions between perceptions of the self and of the environment were worked through. The whole psychological field, or ‘life space’, within which people acted, had to be viewed, in order to understand behaviour.”).

¹³⁶ Rhee, R. (2008). Corporate Ethics, Agency, and the Theory of the Firm. *Journal of Business Review & Technical Law* 3(2), 309, 314-22, in *Course Readings* at 90-92 (stating that as motive is irrelevant, the theory of agency cost may be “conditionally” and not solely based on wealth maximization).

¹³⁷ See Cohen, G.M. (2004). When Law and Economics Met Professional Responsibility. *Foundations of the Law and Ethics of Lawyering*. New York: Foundation Press, 46-47 (explaining that “complementary solutions is the key to minimizing agency costs” since interests diverge in “all principal-agent relationships” due to “the separation of ownership (in the principal) and control (in the agent) of productive assets”).

¹³⁸ For reference, see Sen, A. (1993). *Does Business Ethics Make Economic Sense?* 3 *Business Ethics Quarterly*, 3(1), 45, in *Course Readings* at 199 (“the importance of a claim depends to a great extent on what it denies”).

¹³⁹ Eskridge, W.N., Jr., Frickey, P.P. & Garret, E. (1995). *Cases and Materials on Legislation, Statutes and the Creation of Public Policy*, 4th. Ed. Minnesota: West Academic, 1047-1049 (focusing on the “acquiescence rule,” “reenactment rule,” and the “rejected proposal rule” concerning legislative action).

¹⁴⁰ Rhee, R. (2010). Fiduciary Exemption for Public Necessity: Shareholder Profit, Public Good, and the Hobson’s Choice during a National Crisis. 17 *George Mason Law Review*, 661, in *Course Readings* at 229-231 (explaining that “[c]orporate law is as much a product of political calculation as it is of legal and economic deliberation”).

with caution.¹⁴¹ A middle ground (e.g. a “compromise effect”¹⁴²) may be to forego complacency or conformity,¹⁴³ and at a minimum debate whether SCOR is necessary¹⁴⁴ when compared to relevant alternatives.¹⁴⁵ A (PcE) robot may have been designed to act “ethically,” yet, it may become attached to a cause of action. A jurisdictional schema over such novelty does not have to rely on a silent or ambiguous statute(s),¹⁴⁶ especially when a robot may mimic (some) human roles in civil society.

V. PRELIMINARY CONCLUSION

Corporate ethics is a broad medium for debates. Pentagonian Corporate Ethics may shape a debate about the philosophy, science or sources of law related to the “moral education” or governance of a robot. The significance of PcE may be questioned; if so, the following three theories that PcE derives from will implicitly be questioned: “The Negotiation Triangle,” “The Triple Bottom Line,” and “Artificial Intelligence.” If a PcE robot satisfies a utilitarian’s happiness principle, and the robot performs “corporate social responsibility,” will someone always trust the AI science? A robot’s “unethical” functions may clash with some “morality system governing artificial intelligence.” If ethics is an insufficient deterrent, and if the current structure of the U.S. judicial system cannot effectively control (all) legal issues related to the (social) robotics industry, a “specialized court on robotics” may eventually fill an adjudicatory gap.

¹⁴¹ See Calo, *supra* note 7 (at Kindle Loc. 4587-4590).

¹⁴² Farnsworth, W. (2007). *The Legal Analyst*. Chicago: The University of Chicago Press, 224 (referencing *prospect theory*, arbitrary interests, such as preferences for risk and certainty over gains or losses, “tend to change depending on whether the outcome is good or bad”; less risky decisions are generally preferred when choosing among good outcomes or the more risky alternative is chosen when having to choose only among a set of bad outcomes).

¹⁴³ Friedman, M. (1970, September). The Social Responsibility of Business Is to Increase Its Profits. *New York Times*, in *Course Readings* 52 (“the political principle that underlies the political mechanism is conformity”).

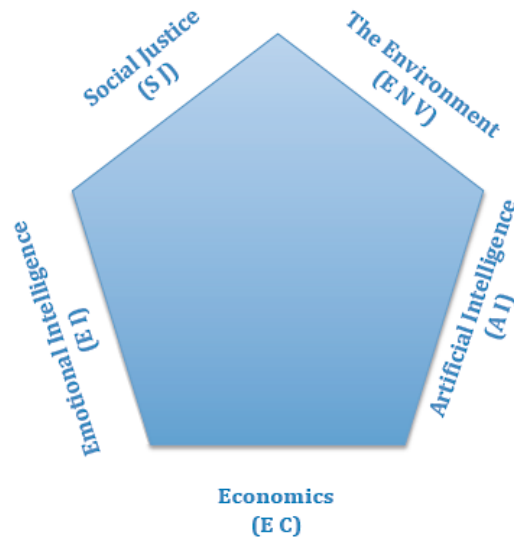
¹⁴⁴ Note, SCOR is not a novel idea, although AI may be factual novelty to some degree. For reference, an example of “specialized judicial administration” involves intellectual property (28 U.S.C. § 1338 (2011); see, e.g., *Holmes Grp., Inc. v. Vornado Air Circulation Sys., Inc.*, 535 U.S. 826, 834 (2002) (particularly holding that the Fed. Cir. did not have jurisdiction because the “petitioner’s complaint did not include any claim based on patent law”).

¹⁴⁵ An alternative may be administrative interim measures. For reference, see, e.g., *MCI Telecommunications Corp. v. FCC*, 750 F.2d 135, 141 (1984) (“substantial deference must be accorded an agency when it acts to maintain the status quo so that the objectives of a pending rulemaking proceeding will not be frustrated.” See also, *Competitive Telecommunications Association v. FCC*, 309 F.3d 8, 14 (D.C. Cir. 2002) (“[a]voidance of market disruption pending broader reforms is, of course, a standard and accepted justification for a temporary rule”); *FCC v. Fox Television Stations, Inc.* 556 U.S. 502, 514 (2009) (a heightened standard of review may not be necessary simply because of a change in administrative policy).

¹⁴⁶ See, e.g., *Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 842-844 (1984) (Note, if “Congress has (not) directly spoken to the precise question at issue”, and secondly, if an agency’s interpretation is a “permissible construction of the statute,” then an agency’s decision is upheld).

APPENDIX

FIGURE ONE: PENTAGONIAN MORAL COMPASS™



Note: PcE's shape¹⁴⁷ frames the five "x factors" (inputs or the factually relevant concepts) that can organize an evaluation concerning whether AI (robot or a cyborg¹⁴⁸) was designed (and built) ethically (and logically).¹⁴⁹ Next, each side individually or together represents the set of facts that can eventually lead to a legal issue depending on how the robot or cyborg component¹⁵⁰ acted or functioned (in relation to the particular source of law).

¹⁴⁷ A pentagon may symbolize a *defense* system, e.g. The U.S. Pentagon.

¹⁴⁸ Note, another question may be whether a human being (e.g. a consumer) should prepare to merge with robotics by becoming a cyborg, which may include "intellectual augmentation" (IA). Two types of cyborgs (C-1 or C-2) would be involved: (C-1) a human being who implants the mechanical and electrical robotic component *inside* their body (invasively), or (C-2) a human who uses robotic components *externally* where the "robotic extension" is *attached* in some way to the human body (non-invasive mechanical and electrical capability). Note also, judicial administration leaders may ask: Why do (social) robots deserve their own court when (human) cyborgs use robotic components?

¹⁴⁹ For reference, see, e.g., Kahneman, *supra* note 85, at 270, 312 (explaining that a "gamble represents the fact that the consequences of choices are never certain," also referencing mathematician John von Neumann and economist Oskar Morgenstern as "deriving the theory of rational choice between gambles from a few axioms").

¹⁵⁰ See, e.g., Kaku, *supra* note 78, at 129 (noting that remote sensing allows the human to use and control a robot to complete a function that the human wants or needs).

FIGURE TWO: PERMUTATIONS AND COMBINATIONS [$y = f(x)$]

<u>General</u>		
How many sides (choices) to this “PcE (blueprint or dice)”?		
Five [EC; EI; SJ; ENV; AI].		
The number of unique orderings of x distinct objects (EC and, or EI and, or SJ and, or ENV and, or AI), taken from five distinct objects, may involve permutations or combinations. ¹⁵¹		

<u>Specifically</u>		
Situation	Permutation	Combination
All Five “ x factors” from the total of five objects (PcE sides or “ x factors”):	One hundred twenty ways or orderings	One way
One PcE factor from the five distinct objects:	Five ways	Five ways
Two PcE factors from the five distinct objects:	Twenty ways	Ten ways
Three PcE factors from the five distinct objects:	Sixty ways	Ten ways
Four PcE factors from the five distinct objects:	One hundred twenty ways	Five ways

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¹⁵¹ Note, a permutation is the number of unique orderings of n (positive integer) where order matters; in contrast, a combination is a permutation where order does *not* make a difference (order is not important).

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