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A CAUTION AGAINST THE ARTIFICIALISTIC FALLACY

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ABSTRACT

The casual justification of the *influence* of a technology, particularly artificial intelligence, by appeal to the *existence* of the technology constitutes an artificialistic fallacy, analogous to the naturalistic fallacy that is well-known in philosophy. Similar to an invocation of nature to provide moral warrant (the naturalistic fallacy), modern tech evangelists invoke the burgeoning of hardware and software products in order to promote that burgeoning (the artificialistic fallacy). This fallacy is often tacit or committed by omission. Emerging ethical initiatives emphasize the refinement, explanation, and oversight of AI products rather than their fundamental ethical effect, making the fallacy recursive.

Keywords: philosophy of computing, ethics of computing, artificial intelligence.

PHILOSOPHY FOR TECH

Conscientious philosophical analysis can reveal latent presumptions that invite actual and potential problems, in technology as well as other realms. Although the humanities play a minor role at most technology firms (where “minor” may be generous), it is important for professionals in computing technology to understand the context and stance of their work as it relates to human life, now and in the future. We need to detect misconceptions, misleading perspectives, and suppressed issues. While all computing professionals hypothetically have the best intentions, and most of us surely do, it takes extra thinking to perform the ethical analyses that are called for by technological advances. Indeed, that’s the point here—that technological advances call for ethical analyses, and in a particular way that is not clearly addressed by myriad contemporary initiatives to bring more ethics to bear on technology. High tech is so successful, by many measures, that it seems to create a mandate to continue on its current trajectory. If that mandate is based on the state of the world, the needs of the consumer, and the utility

provided, that's fine. But if it is based on a subtle transition from the descriptive to the prescriptive, we should object.

THE NATURALISTIC FALLACY

Philosophers exposed the subtlety in question long before high tech came along. We look briefly at two accounts, by David Hume and by George E. Moore. Hume noticed, in his reading of academic philosophers, that they tended to slide from "is" to "ought;" that is, they tended to use a description of how things are in nature to justify how things should be in human affairs (Hume, 1739, Book 3 Part 1, Section 1). He pointed out that there is no derivation in logic that justifies reaching a normative conclusion from empirical evidence. A couple of centuries later, Moore wrote a well-known exposition of this fallacy, stating it particularly in terms of the theory of evolution: "This is the view that we ought to move in the direction of evolution simply because it is the direction of evolution" (Moore, 1993). Under both of these analyses, people are free to derive their morality from nature, or from some other facts about the world, but they must adopt that as a premise in order to avoid the fallacy and achieve validity in the reasoning.

Naturalistic Fallacy: the derivation of "ought" from "is," with "is" taken as Nature.

Overt Expression: "Vegetarianism can't be morally justified—we've been eating meat for millenia."

Covert Expression: "You can't get in the way of progress."

Moore uses the device of the Open Question to expose instances of the naturalistic fallacy: Given that X is the case that holds (in nature), can we still ask whether X is good? If the question whether X is good is a coherent one, then the goodness of X does not follow from its veracity; that is, its status as truth in the world does not make it a moral imperative (*ibidem*).

To be precise about our interpretation of the Naturalistic Fallacy:

1. The assertion "A is natural, and we ought to A" is coherent, and may be true.
2. The argument "A is natural and we ought to do what's natural, and so we ought to A" is valid.
3. The assertion "A is great, and we ought to do A" is coherent, and may be true.
4. But the argument "A is natural, and so we ought to A" is fallacious.

We object only to the last, the implicit appeal to "how things are" to *justify* how things are (as well as the appeal to "how things are not" to *justify* how things are not).

THE ARTIFICIALISTIC FALLACY

We identify a similar error, the Artificialistic Fallacy (so named because instances appear particularly in comment on artificial intelligence technology).

Artificialistic Fallacy: the derivation of “ought” from “is”, with „is” taken as Technology (particularly AI).

The form in which we see this expressed is a celebration of the cleverness of humans leading to a normative flavor of congratulation and thence to an assumption of moral goodness. As with the naturalistic fallacy, troubling instances of reliance on this argument are often not clearly exposed.

The Artificialistic Fallacy addresses technology and its general endorsement of progress, and rests comfortably on ambiguous connotations of that very “progress,” rather than on clear inference. Progress can mean increasing knowledge and ability, but it can also connote movement; in this case, momentum toward betterment of human life. The pragmatics of that use of the word “progress” implies that the momentum should not be stymied. Therefore, a claim of increasing technological ability can be referred to as if it were increasing human flourishing. Like the Naturalistic Fallacy (on Moore’s account in terms of evolution), the Artificialistic Fallacy is dynamic, its instances seen in development over time, as trajectories. To apply the (Artificialistic) Open Question is to ask this: Given that X is an accomplishment of technology, can we still ask whether X is good? The answer to the question whether X is good could be “yes,” of course, but neither possible answer begs the question.

OVERT MANIFESTATIONS

The satirical American publication *The Onion* carries a recent story of Silicon Valley tech leaders promoting an automated grizzly bear as an “unavoidable and inevitable part of progress” (*Onion*, 2021). Making the point humorously, the piece quotes (falsely, of course) a letter from tech leaders:

“Any kind of regulation on this front will only hinder America’s ability to design and mass-produce high-quality indestructible grizzlies, which is the way the world is headed. You can’t stop progress ...”

The target of this satire, of course, is the implicit claim that we *shouldn’t* stop progress, no matter what.

For another example, from the Wolfram company website:

“The rise of computation has been a major world theme for the past 50 years. Our goal is to provide the framework to let computation achieve its full poten-

tial in the decades to come: to make it possible to compute whatever can be computed, whenever and wherever it is needed, and to make accessible the full frontiers of the computational universe.” (Wolfram, 2019)

The fifty-year rise of computation constitutes the “is.” The drive to compute “whatever can be computed” and make that computation accessible—its perpetuation—constitutes the “ought.” To apply Moore’s question is to ask whether the given the 50 years of computation rising, can we still ask whether computing whatever-can-be-computed is good? Yes, that seems a coherent question to this author.

FOCUS AND CONTEXT

The analogy with the Naturalistic Fallacy is not perfect; there is a difference in scope between the Naturalistic and the Artificialistic Fallacies. The Naturalistic version can be invoked to express any attempt to reduce ethics to some other scale. Under that view, the Artificialistic Fallacy is an instance of the Naturalistic, in the artificial realm, rather than a peer.

Some defenders of technology detect the original Naturalistic Fallacy in a popular aversion toward modern technology in which the natural is held in higher regard than the technical. The thesis here is an inversion of that. Dorato examines the use of the term or concept “natural” in ethical arguments, along with criticism of technology as “against nature” (especially nanotechnology). He maintains that such unsupported condemnation is illegitimate (Dorato, 2015). Nothing here contradicts his claim. We agree that any argument invoking nature as support should explain and justify that move.

Nor is *techno-optimism* the target of this work. As O’Mara defines it, augmenting her account with pertinent history, techno-optimism is “the belief that technology and technologists are building the future and that the rest of the world, including government, needs to catch up” (O’Mara, 2019). Such optimism, a firm belief in the future benefits to be brought by computing technology, predicts facts, whereas the theme here is the slide from facts to ethics. (We look harder at this definition below.) Many commentators have pointed out that the leaders of Silicon Valley describe their own companies’ products as making the world a better place, leaving the exact effects rather vague (*ibidem*). Only the future will affirm or deny the factual claims. In fact, pure techno-optimism, which is morally neutral, must be carefully factored out of ethical discussions. The related activity of *techno-evangelism* tends to conflate people’s standard of living with their quality of life as a means of persuasion—promoting support, adoption, and sales—rendering its moral content indeterminate (Wikipedia, 2022). Any promoter of a particular technology product, hardware, software, or other, may be motivated simply by a conviction of the superiority of that product and the

desire to share its benefits with others, rather than motivated by normative zeal.

We call for ethical probing of the sources of such conviction, but do not condemn high tech in general. It would be superfluous to list the benefits that computing, and the Internet, have brought about. This is not criticism via the Law of the Instrument (“When you have a hammer, everything looks like a nail”), but an examination of the consequences. This is not to target individual statements, not to identify villains, nor to cultivate superiority. We all, even the most well-intentioned social observers, tend to adhere to conventional wisdom. We all need reminders.

COVERT AND COMPARABLE MANIFESTATIONS

1) Marketing

Marketing claims that glorify the computerization of processes are sometimes clearly exaggerated, such as the Salesforce statement that “Digital transformation adds value to every customer interaction” (Salesforce, 2020). Some customers with experience in call centers may dispute that, although the company concerned may indeed see added value. We expect business to promote its products, and marketing to deploy many shades of innuendo to guide consumers toward a better version of the present. So commerce may not be fair ground on which to claim foul. Yet these claims drive government and even academic research. As I opened a recent issue of the Communications of the ACM, I found this: “... for all the remarkable advancements, there’s a pesky reality: smart devices could still be a whole lot more intelligent—and tackle far more difficult tasks” (Greengard, 2020). The remarkable advancements constitute the “is;” meeting the challenge of making smart devices more intelligent constitutes the “ought” (implicitly). But cannot we ask, coherently, under the remarkable advancements, whether making smart devices even more intelligent is good?

2) Proliferation of Technology

Government agencies and private organizations under increased workloads are sold recommender systems to help make sensitive decisions. Government agents deploy those systems to get the job done, and also—perversely, on our view—to justify those decisions. We have seen this in the case of the criminal-sentencing system COMPAS, the bias of which (in early versions) was exposed by ProPublica (Mattu et al., 2017). This is the type of product born of the momentum of tech rather than the benefits of tech. And consider the product iBorderCtrl, intended to identify people at European border crossings. The staff of ActuaIA explain it with appropriate skepticism (ActuaIA, 2019), and Gallagher and Jona later note that it fails (Gallagher et

al., 2019). This suggests that the assumption of progress-as-improvement was mistaken, but that is not really the point, because that is an error in the prediction of fact, not an error in sliding from “is” to “ought.” (Failure of such a product, however, subverts the “ought” on pragmatic grounds.)

High tech reaches beyond the satisfaction of needs to the creation of needs, such as instant delivery of entertainment, smart refrigerators, and constant counting of steps taken. This paper is not a sermon on marginal or silly products of high tech. But it does have something to say about what happens during their design. Often, shortcomings or triviality are viewed as challenges to overcome, generating a technical conversation, whereas this is a call for the flaws to generate a normative conversation, allowing abandonment as a possible outcome.

3) *Commission by Omission*

The artificialistic fallacy is often committed by omission of the question “whether” in favor of the question “how,” that is, in the subordination of the yes-or-no decision to elaboration on the mechanisms. Greene, Hoffman, and Stark present a study of values statements published by AI institutions, comprising non-profit, corporate, and academic membership, in which they note that “... ethical debate is largely limited to appropriate design and implementation—not whether these systems should be built in the first place” (Greene et al., 2019). In other words, Moore’s Open Question is ignored. In successive AI Now reports, the authors are increasingly alarmed by this, their recommendations moving from opening up research to monitoring AI systems to regulation and governance (Crawford et al., 2016; Campolo et al., 2017; Whittaker et al., 2018). We interpret this to indict the tech business for paying no attention. Greene and colleagues further note that the emphasis is placed on fixing AI so that its full advantages can be obtained without resistance: “... edicts to do something new are framed as moral imperatives, while the possibility of not doing something is only a suggestion, if mentioned at all” (Greene et al.).

That aligns with the point here: The normative questions about AI technology are not dismissed; rather, they simply never surface.

The attitude that “we have to get it out there” and “we have to show people” and “we have to calm their fears” are all ways of skipping the Open Question.

4) *Historical Analogy*

A couple of centuries ago, a campaign emerged in the United States that:

Aimed to improve the lives of people and groups, even those not yet involved;

Appealed to commercial interests and to youth who desired opportunity;

Was seen as a duty aligned with divine plan, and with nature;
 Assumed that those affected would buy in when they understood the
 advantages;
 Became a pervasive notion, fulfilled in action, while never an adopted
 policy.

That time was the mid 19th-century and the campaign was known as *Manifest Destiny*—the drive to settle, and thereby take over, the American West. It exhibited a marked resemblance to the current enthusiasm for high tech. Proponents such as John L. O’Sullivan saw the far Pacific Ocean, the boundary given by nature, as the right and proper extension of the new and growing United States, executing a geographic form of the Naturalistic Fallacy. A Congressman opined that God designed the original States „as the great center from which civilization, religion, and liberty should radiate and radiate until the whole continent shall bask in their blessing” (Merk, 1963, p. 28). The word “should” makes that bold declaration a moral imperative, justifying a movement already underway.

It is unfair to compare modern initiatives for AI to the militant tone of O’Sullivan’s writings, in which the term “Manifest Destiny” is first used; he called on racism, uni-culturalism, and crass patriotism. Merk notes that other more generous motives, such as the spreading of democracy, the sharing of prosperity, and even the preservation of local control through federalism (states’ rights), were also in play. It is important to note, in an era of opinions that sweep through the masses, that opposition was vigorous as well (ibid.). A critique of Manifest Destiny, however, should be left to real experts in political, social, and historical affairs. We are interested in the *Ought-from-Is* aspect. This historical analogy illustrates nicely the dynamic aspect of this type of fallacy; it emerges as a process rather than a static goal. The modern Artificialistic Fallacy shares that aspect but appeals but to man’s ingenuity and technological prowess, rather than to God’s sanction.

CONFERRAL OF VIRTUE

As Hume says of the transition from “is” to “ought” in moral commentary, “The change is imperceptible” (Hume, 1739). To borrow phrasing from Moore, the philosophers addressed the commonplace belief that the direction in which we are developing shows us the direction in which we ought to develop. We must carefully separate the prediction from the morality.

Randy Connolly condemns the limited vision, stating that, for too long, computing has exhibited “a tendency to rely on pop-culture theories about inevitable technology-driven social change that painted an attractive and self-satisfied veneer over our work” (Connolly, 2020, pp. 57–58). To accuse

a profession of attractive and self-satisfied work involves values, not just facts, hence is normative. Let us return to O'Mara's definition of techno-optimism: "the belief that technology and technologists are building the future and that the rest of the world, including government, needs to catch up" (O'Mara, 2019). The part about "building the future" is predictive, but the part about "needs" is normative, implying, as in Connolly, the achievement of virtue.

It's significant that the Artificialistic Fallacy is rooted not in thinking but in unthinking. No one (of whom I know) claims crudely that technology is good simply because technology is here. And, of course, much of technology is good in some sense. Virtue is a heavy load for an unconsidered assumption to carry, but virtue comes along with the normative connotations of the "ought."

And, under modern circumstances that privilege Internet communication, automated data sharing, and apps that enable quick and convenient arrangements, this conferral of virtue compounds itself, as will be described below in the section "Recursive Application."

Few would deny that technology can work out badly. See Eubanks (2018) and many other commentators for accounts of harm. But scrutiny of ethical reasoning does not have to be justified by egregious damage. Tech outcomes may be good or bad, regrettable, mild, mixed, or indifferent, but fallacies should be eschewed *anyway*. We object not to selling products nor to designing new ones, but merely to the subjugation of morals to momentum. The key pitfalls of such subjugation, described below, include vulnerability induced by the novelty and insidious recursive application of the fallacy.

VULNERABILITY TO NOVELTY

The novelty of high tech and its attendant issues precludes cautious assessment, inflicting a vulnerability for which the public is badly prepared. The current status of iBorderCtrl is not known, as the European Commission has not released reports on its deployment in four countries in 2019 (Stolton, 2020), deprecating it as a trial project. The public had no voice in the project, initially or currently. There may be cases where that is appropriate; there may be cases where a program or facility is so new that security demands secrecy, allowing no space for serious ethical consideration. But in many new programs, normative control is unknowingly or passively abdicated to private industry, as in the case of Google's Street View—the public was never asked. Because the developments are so new as to come without normative precedents, the tech world ends up determining the suitability of its own products.

RECURSIVE APPLICATION

Flaws or failures in artificial intelligence are blamed on the AI system, not on the attempt at application, leading to refinements in the AI and further application. The Naturalistic Fallacy allows only one iteration, which can't be repeated by humans. Because the Artificialistic Fallacy does not depend on nature, but on man, we can perpetuate it, and do.

Replies to criticism of AI application shortcomings often promise new and improved AI. According to Thomas Hellstrom, "The problem of overconfidence in AI may paradoxically increase rather than decrease over time" (Hellström, 2020). The result is repeated reworking and repeated commission of the fallacy over the previous state of affairs, a momentum toward ever more complex yet dubious technology, in a closed system.

CONCLUSION

Many high tech companies and organization have recently undertaken ethical initiatives, but they emphasize the explanation and oversight of AI products rather than their fundamental morality. The wanton application of technology, especially machine learning and artificial intelligence, to social problems and consumer propensities reveals a particular issue in normative reasoning. Certainly, technology is sometimes ineffectual or even harmful; that is not the point here. Certainly, the assumption of inevitability of technological proliferation should not be a driving force; that is not the point here. These factors only supplement the point here—that the derivation of technical virtue, of desirability, of goodness, from the current technical trajectory, is fallacious. Insofar as the tech world itself determines the suitability of digital transformation, the tech world should take this into account.

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