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Structural Flaws in the Ethics of Technology

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Structural Flaws in the Ethics of Technology: An Essay on the State of the Discourse

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ABSTRACT

We are confronted more and more with perplexing issues in the ethics of technology. This includes some obvious concerns such as issues in computer ethics and the ethics of biotechnology. However, the ethics of technology covers a wide variety of less obvious, but perhaps more troubling, concerns and issues that are coming at us in greater numbers at an increasingly rapid rate. As such, the ethics of technology is rapidly becoming the dominant ethical concern of our time. At the same time, the ethics of technology is very poorly understood and, due to structural flaws in how we approach it, we are left unable to adequately address some of the more pressing issues of today and the near future. This paper identifies some of these structural flaws, attempts a few solutions, and above all attempts to start a discussion on these problematic issues.

Keywords

Ethics of Technology, Consequentialism, Empirical Ethics, Moral Epistemology.

INTRODUCTION

Structural Flaws in the Ethics of Technology

Unfortunately, there are structural flaws in the ways we approach the ethics of technology which are likely to inhibit our ability to make progress on some of the most pressing issues of our time. This paper is structured in terms of three sets of issues, each delving more deeply into the Ethics of Technology. The first set addresses some Superficial Issues to slide into the discussion more easily. Following are some much Deeper Issues that must be resolved in order to make progress in the field. Finally, we will look at some Much Deeper Issues which suggest that nothing short of a reconceptualization of ethics, technology and moral epistemology are needed. The issues are presented as abstract concerns rather that as attacks on the work of individuals as the later approach would be unlikely to be very productive.

A Working Example

We can begin with a relatively benign ethical issue that is not widely known so as to avoid preconceived notions as much as possible. To what extent should people in virtual worlds such as Second Life or World of Warcraft be honest about who they are in real life. In simple terms, this is the anonymity issue. The anonymity issue, on first pass, has two sides: one that is opposed to anonymity and one that favors it. This is not to say that there is nothing more to this issue. This is, actually, a very complex issue. But, for the purposes of this example, it is best to keep it simple. The anti-anonymity side claims that people ought to be honest about who they are in real life. This is, most likely, based on the premise that people, in real life, who are not who they claim to be, are almost certainly up to no good. The pro-anonymity side claims that not protecting anonymity may severely restrain virtual world experiences that may be necessary for the well-being of the individual. This position is probably based on the notion that individuals should have freedom of self-expression and freedom of self-expression is a necessary component of individual wellbeing.

SUPERFICIAL ISSUES

These are issues that will probably go away over time as we develop more sophistication with regard to the ethics of technology. But bringing them to the foreground may help expedite their demise.

Issue 1: Ethics versus Preaching – Let's say that someone decides that anonymity in virtual worlds is a bad thing and decides to share those views with others. Raising issues and raising awareness is a common component of ethics, but I would question if this is ethics at all. I would offer the following distinction. Ethics is the difficult process by which we resolve

conflicts between competing interests. That is, it is the process by which we make difficult decisions about appropriate behaviors. If one merely adopts a position and feels compelled to share those views with others, it is preaching. I am not saying that preaching is a bad thing. In fact, it is good that people solidify their views and share them with others. But, it is not ethics. In fact, "raising awareness" is a questionable element in ethics. The premise behind raising awareness is that presenting people with a limited glimpse into a complex situation will have them come to a particular position on the issue. At best this can be considered persuasive reasoning. At worst it is propaganda.

This is not to say that there is no room in ethics for arguments that favor one side. However, this must be done in the context of competing arguments that illuminate all sides. The problem arises when a particular perspective is offered, not as a competing argument, but as the final and correct answer. Claiming something to be an ethical result carries a lot more weight than offering it as a competing perspective. Claiming that protecting anonymity in virtual worlds is a bad idea from an ethical perspective suggests that people who think anonymity is a good idea are bad people. This in turn shuts down discussion and the underlying issue remains unresolved. So, it is important to have substantive ethical discussions rather than proclaiming conclusions.

Issue 2: Process versus Product – This is a more generic problem that will be injected as a follow-on to the preceding issue but expanded upon later and applied to other situations. We often confuse the results of a process with the process itself. For example, is ethics the process by which desirable behaviors are determined? Or is it the body of desirable behaviors? I would argue that ethics is the process. At the end of this process we have a collection of desirable behaviors. We tend to emphasize the outcomes either as codified in Codes of Ethics or simply in pronouncements and we call that ethics. But, if these outcomes have not been derived though a rigorous process, then it is not ethics. It is preaching.

In order to drive this point home a little further, I would like to provide a parallel situation. The same confusion between process and product occurs in science. Science is the process by which reliable knowledge about the natural world is derived. However, we often think of science as the results of that process. So, for example, we think of science as the stuff we find in textbooks on physics or biology. However, it is important that those outcomes were derived using scientific method. So, knowledge about the natural world that was not derived scientifically would not be considered science. Similarly, ethical principles that were not derived through an ethical process should not be considered ethics.

Issue 3: Empirical Ethics - It is always interesting to know what people think and do with regard to issues of ethics and morality. For example, X% of Facebook users post incriminating information. Or, Y% of Virtual World users mislead other users about who they are in the real world. It is interesting to know these statistics, but it does not get us anywhere in resolving ethical issues. This is really an empirical version of the Is/Ought problem. Simply because things are a certain way does not mean they ought to be that way. Neither does it mean that they shouldn't be that way. Let's take the issue of dishonesty in Virtual Worlds and consider different values of Y. If Y is 25% or 50% or 75%, does that have any impact on whether or not this behavior is acceptable? No, it doesn't. Further, empirical studies of ethical behavior often carry an implied ethical judgment. If, for example, a study were to show that 75% of users of Virtual Worlds mislead other users with regard to who they really are there may be an implication of some kind in there otherwise it wouldn't be reported. Unfortunately, since the implication is implicit it may be misinterpreted. Does this mean that people who inhabit Virtual Words are bad or can't be trusted? Does it mean that one should avoid Virtual Worlds? Who knows? And it is not possible to have a serious discussion on an unarticulated premise. This is not to say that there is no room for this kind of work. But empirical ethics should be viewed as a beginning not a last word. It should point out that there is an issue that needs attention but should never imply what the resolution should be.

Issue 4: Social Aspects of Technology – This is a pervasive problem in technological fields. If someone designs a better mousetrap is it fairly easy to accept the fact that any impacts will accrue only to the mice. However, if someone designs a computer system, a piece of software or hardware, a genetically engineered solution to horrible disease, or any technology that has social, psychological or ethical impacts we need to understand what those impacts might be. Unfortunately, understanding these impacts often requires dual expertise. For example, to understand social impacts one must understand sociology as well as technology. In order to understand psychological impacts one must understand psychology as well as technology. And, in order to understand ethical impacts one must understand ethics and the technology. Unfortunately, most field experts (sociologists, psychologists, ethicists, etc.) do not fully understand the technology. That is, they do not know what is possible and what is not possible. They do not know what is likely or unlikely. They do not understand where the technology is likely to evolve. They do not understand how synergies might arise with other technologies. On the other hand people who understand the technology in some depth are not likely to have the necessary training in the examining field whether it is sociology, psychology, ethics or any other referent field. Since there are few people who have the appropriate background to fully understand the issues and their implications we must resist jumping to ethical conclusions and encourage greater debate of the issues.

DEEPER ISSUES

These are more substantive issues that will not automatically go away over time and that will take more discussion to resolve.

Issue 5: The Inadequacy of Consequentialism - One of the dominant ethical theories of modern times is consequentialism. That is, the ethical status of an act or rule should be decided based upon its consequences. This is a worthy approach to ethics and it might not be going too far to claim that most people today are at least minimally consequentialist. That is to say that most people would not completely ignore the consequences of a given ethical stance even if it were clearly right or wrong according to one of the other ethical theories. Nonetheless, consequentialism does have a major flaw and that is that you need to know the consequences of a stance in order to consider the consequences. This is not a problem when considering issues that are similar to ones we have encountered in the past. However, technologies often bring on consequences that could not have been easily predicted with the introduction of the technology. Going back to the premise situation with virtual worlds, most people would agree that if virtual worlds required complete anonymity we would see one set of consequences. If there were no anonymity we would see a different set. What those two sets of consequences might look like could be the subject of very heated debates. And which of the set of consequences are the most desirable would add even more heat.

Issue 6: The Changing World – This important issue can be best illuminated with a story that captures its essence. Back in the early 1990's I was teaching a telecom class for MBA students. To impress upon them the potential significance of emerging telecom technologies I would do an exercise in which I would have them imagine being fifty years in the future and looking back with amusement at what we had to deal with in what was the present to us. One of the claims I would make was that in the world of the future, the idea of having to be by the phone, if you were waiting for a phone call, would become an outdate idea. "In the future," I would claim, "you will carry your phone around with you and the network will find you." I should have videotaped this interaction because, when I relate the story today, people have a hard time believing that it ever occurred. Nonetheless, at this point these very practical MBA students would put down their pens, fold their arms and refuse to take notes from the ravings of a lunatic such as myself. The idea of carrying your phone around with you and having the network find you was such a preposterous idea, on the face of it, that no practical business student would give it any consideration. And they had good reasons.

"How are you ever going to get a telephone small enough to carry around comfortably?"

"If we can make phones that small, how will anyone be able to afford one?"

"Isn't 'having the network find me' a violation of my privacy?"

"When I am away from the phone, I *want* to be away from the phone. I don't want people disturbing me"

And on and on.

I dare say that most of the readers of this paper probably have a cell phone on their person and the network may very well have found them while reading this paper. How could these students be so wrong? The answer to this question not only applies to cell phones, it applies to technologies of this sort in general. The students were evaluating the future use of a portable phone in the context of the world with which they were familiar, not in the context of the world the cell phone would create. And if I had tried to tell them about a world of the future where everyone one has a cell phone nobody would have believed it. The future world in which people text, use apps, send pictures, pay parking meters, get purchasing recommendations, etc. etc. would have been difficult for them to envision much less understand. The problem, of course, is that we tend to evaluate technologies in terms of the world into which they were introduced rather than in terms of the world they create.

Issue 7: Inertia of the Status Quo – This issue is related to the previous issue but bears being singled out. No matter how much change people may have seen in the past, specifically related to information technology, they do not believe the future will be much different from the present. There is probably some psychological reason for this. But that is beyond both my understanding and my expertise. Once again, I must resort a story to illustrate this.

In the early days of the World Wide Web I would tell students that, in the future, you will go shopping at web sites. "In fact," I would claim, "many of you will do the majority of your shopping on the web, and many more of you will go to the web first to get product information and compare prices even if you decide to make the purchase at a local store." To say that the class was skeptical, would be an understatement.

"How can you buy a product without being able to touch it, shake it, and see how heavy it is?"

"You can't buy clothes without trying them on!"

"How can you trust somebody in cyberspace with your credit card? That is asking for trouble!"

And, on and on.

And, yet, after having experienced massive changes in almost all aspects of their lives due to web technology, people are still reluctant to consider changes the future may bring. Consider the following two claims: 1) In the future the majority of education will be delivered over the World Wide Web making face to face classroom based education virtually obsolete, and 2) In the future people will work and socialize in virtual worlds and the majority of people you know, you will not know in real life.

We hear predictable weak challenges.

"You need to be able to see people's faces when you are lecturing otherwise you can't tell if they are following what you are saying"

"Virtual classrooms lack the social element of face to face classroom education, and the social aspect is important."

"How can you have friends in a virtual world when you don't know who they really are?"

And, on and on.

The last issue addresses the motif question that we are considering. And, it is easy to see how thinking on this issue can be severely biased by the inertia of the status quo.

MUCH DEEPER ISSUES

Finally we will explore some much deeper issues. These issues go right to the heart of what we are discussing when we discuss the ethics of technology and how we may need to re-conceptualize our understanding in order make some progress.

Issue 8: What is the Ethics of Technology? This is really three questions that need to be answered separately and then brought together: 1) What is Ethics?; 2) What is Technology?; and 3) How Does Ethics Apply to Technology? The answers to these questions may be surprising to some. But getting over this hurdle is central to making any further progress.

What is Ethics? – Most definitions of ethics are barely adequate. They gesture at the essence of ethics without providing sufficient nuance for advancing our understanding. Further, they often explain one poorly defined concept in terms of another poor defined concept. For example, if one defines ethics in terms of moral philosophy we are left wondering what moral philosophy is about. If one defines ethics in terms of right and wrong or good and bad we are left wondering about right and wrong or good and bad. This is not helpful. A definition that I have found useful is that ethics is the process by which we define standards of appropriate behavior considering the well-being of the individual and the need for harmony in society. I like this definition because: 1) it defines ethics as a process; 2) it reveals the goal of that process; 3) it reveals ethics as the resolution of competing interests; and 4) it identifies two of the primary, although far from the only, competing interests that ethics needs to resolve. We often simplify our understanding by referring to the result of that process as ethics as well as discussed above. So, in simple terms, an issue arises involving competing interests and somebody has to decide how we should proceed. Further, just as in the process versus product issues discussed earlier, simply because someone claims something to be a scientific fact does not make it a scientific fact. Science is the process by which we sort these claims out over time. And simply because someone claims a position to be an ethical position does not make it right. Ethics is the process by which we sort this out over time.

What is Technology? This is a more vexing problem and one that will be the most difficult to overcome. Our commonplace understanding of what we mean by the term technology is inadequate to advance our understanding of the ethics of technology. Francis Bacon used the term "Idols of the Marketplace" to refer to the commonplace manner in which most words are used. He also claimed that commonplace usages of words inhibit progress in advancing our knowledge about the natural world. Anyone who has labored over the definitions of the terms using in a research study will understand this well. Unfortunately, the problem of poorly defined terms is not limited to natural science. It applies to any area in which we are attempting to expand our knowledge or understanding.

The word "technology" is derived from two Ancient Greek root words: techné and logos. We are already familiar with logos. It is a rigorous examination of a field of inquiry. For example, psychology is a rigorous examination of the psyche. Techné, on the other hand, is often translated as "craft" but for our purposes should be thought of as a reliable process used to bring about a desired result. If a person knows how to create a tasty meal, make a convincing argument; write a compelling story or a properly executing software program, that knowledge is techné. Technology, then, is a rigorous understanding of the means by which we bring about results.

We see the "process versus product" problem arise once again in the case of technology. Technology is the process by which we produce results. Those results include but are certainly not limited to, the products such as computers, cell phones, etc that we normally associate with the ethics of technology. But by confusing product with process we tend to focus on some rather insignificant issues in the ethics of technology while ignoring the much larger issues.

What is the Ethics of Technology? Technology is the means by which we bring about changes to the world we live in. When we make massive changes we must take responsibility for those changes. And the ethics of technology is the means by which we take responsibility for those changes.

Issue 9: Imagination and Moral Epistemology - Epistemology addresses the question – how do we know what we know? Traditionally, we derive knowledge using two very different approaches called empiricism and rationalism. At the risk of being simplistic, we can say that empiricists believe that knowledge is derived from observation while rationalists say that knowledge is derived from reason. But for purposes of this discussion we need to refine these two definitions and say that empiricists believe that knowledge is derived from "disciplined" observation, while rationalists believe that knowledge is derived from "disciplined" reason. The notion of "disciplined" observation or reason is usually implied and understood but bears being brought to the foreground for this discussion. In natural science and social science we are observing phenomena that exist in the world today (natural or social), organizing those observations into theories, and then reasoning based upon those theories. We can then test those theories by gathering more observations and determining if those observations are still consistent with our theories.

But, what do we do if the object of our study exists in a possible world of the future such as a possible world brought about by a new (or even existing) technology? How do we gather observations? How do we reason based upon those observations? How do we test our conclusions?

The answer is that we need to develop a disciplined approach to imagination that will allow us to gather knowledge about the possible with as great fidelity as the knowledge we gather about the present. This is problematic because we tend to see imagination as difficult to control. However, there was a time before reason was disciplined and a time before observation was disciplined. So, the fact that we live in an era before imagination was disciplined is not a reason to give up on the quest, especially if that is the only way we can gather the knowledge that we need.

A Historical Perspective

There is no end to the list of historical examples of how technology has impacted our world- the use of metals; inventions such as the steal plow, the longbow, the telescope, the printing press or the computer; conceptual technologies such as logic, scientific method and mass production – have all had major impacts on the world in which we live. In the past, we have viewed this in a benign light. It is, after all, just human progress. But, historically, things were different in three important ways. First, technologies came at us at a much slower rate. Second, their impacts were more contained. And, third, the consequences would have been difficult to determine so it would have been difficult to take responsibility for them.

On the first point, the rate of the development of new technologies has gone from millennia to centuries to decades until today when significant changes can come out every few years. As technologies come at us faster and faster, it becomes more difficult to see how the impacts will play out. We have to be more proactive. We need to anticipate more and accept less. On the second point, historically the introduction of a new technology would affect one limited group, perhaps to the detriment of another. But the impacts were contained. Today a new technology comes out and it is globally available before we can even think about global consequences. Finally, one of the attributes of an evolving civilization and global citizenship has been to take more and more responsibility for our actions and our circumstances. Typically, this has been limited to the present. Now we need to start taking responsibility for the future as well.

CONCLUSIONS

Before wrapping up this argument on the structural flaws in the ethics of technology, it bears mentioning that the point of this paper is not to condemn the entire field. Nor is it to say that there have been no substantive contributions. There have been some very promising contributions to the field, but sadly they are often more the exception that the rule. And they are not the focus of this paper. Nonetheless, even the most profoundly insightful contributions are, more often than not, grounded in the values of the present rather than the values of the future that technology may bring about. Hence, there is still much work to be done and this is a good time for a discussion that digs a little deeper into the foundations of the field. Though a lot of points were covered, it really comes down to three issues: 1) we need to rethink our definition or technology, 2) we need to make greater demands on the study of the ethics of technology, and 3) we need an improved moral epistemology to evaluate alternative worlds of the future.