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research ARTICLE

The Myth of Technological Progress

—Patrick Ryan (Edited by Brigid C. Casellini)

The notion of progress is hotly debated within the philosophical community, but perhaps it is the casual and unquestioning acceptance of progress by the average individual that gives the issue its importance. Progress has become a catch phrase, a slogan. Humans undertake numerous endeavors in the name of progress, and to act in the name of progress seems to have become sufficient grounds for considering an act or endeavor worthwhile and valuable. Yet while we point at various institutions and practices, such as technology, and label them manifestations of progress, we seem to have great difficulty describing what progress really is; and more importantly, what goal it is moving us toward achieving. It is the cloak of mystery that shrouds progress and its popular and uncritical acceptance in our society that inspired my research into technological progress, a study which was funded by a Summer Undergraduate Research Fellowship from the University of New Hampshire.



My goal was to describe the nature of progress and discern whether technology is a manifestation of progress. I began with the three standard philosophical approaches to the notion of progress. My historical approach toward progress included researching the Enlightenment beginnings of the idea as well as reactions to Enlightenment thought. I subsequently took up an epistemological approach, studying the nature of knowledge as either continuous and compounding or fragmented and temporally relative. Lastly I looked at progress from a social and political perspective and studied how technology fits within this perspective on progress.

In addition to reading the work of major philosophical figures from each of these approaches, I studied issues related to particular problems brought up by each text, such as nationalism, cosmopolitanism, the precedence of reason, and the nature of freedom. I met with my advisor weekly to discuss the major texts and wrote brief responses that formed the basis of my final conclusion. Upon completing the research process I was firmly committed to the view that if humanity is to free itself from the limitations imposed by progress and technology, these ideas must become the subject of widespread critical analysis.

Scratching the Surface: Popular Beliefs and Attitudes about Progress and Technology

One of the fundamental sources of the confusion that surrounds progress is that in non-philosophical language, the word *progress* is often used interchangeably with the word *change*. The two are related in that progress is a type of change, but all too often change is labeled progress. Progress is a change that moves in a linear fashion toward a very specific goal, which is always some utopian ideal. However, each instance of progress imagines a different ending point, a different description of utopia and how to achieve it.

In this sense progress might be thought of as a ladder: We begin at the bottom and add rungs to the ladder as we climb until we are able to reach the height that we peered up at from below. Change, on the other hand, may be thought of as the color of a leaf changing with the seasons. The leaf does not change to reach some conscious goal; rather it changes in response to a natural stimulus. In this sense change is brought about by sources external to one's control, and progress is the exercise of one's rational abilities to reach a goal by taking a planned route.

Technology, as we traditionally think of it, is a perfect example of the abstract characteristics of progress described above. It has a very clear history that provides a cohesive story showing how each invention and new technology built upon a past technology and was in turn expanded upon, right through to the current status of technology. The goal of technology becomes clear when one considers how we use technology. From the most primitive stick being used as a lever to the most complex modern hydraulic system, technology has always been used to make human life better and easier. We use technology to overcome limitations, to expand our physical and cognitive human capabilities and possibilities. Perhaps technology's goal is summed up best as a removal of the limitations of humanity. Progress in technology is a ladder in which each new instance of technology is a new rung; and the great height toward which we climb is a limitless, perfectly free, and perfectly content human.

It is this progressive view of technology that has brought it to its dominant position in society. Because technology and progress are considered valuable for humanity, most considerations of the topic end here. However, we have yet to work out what is really meant by technology, and our picture of progress remains uncertain. I have described how technology and progress appear, but the reality of progress and technology lies beneath their appearances. The crucial components to understanding progress and technology are the ideas and institutions that are the foundations of their existence.

The Nature of Enlightenment

Understanding the goal of a limitless human as promised by technology is the first key to understanding technological progress. The idea of a limitless man can be traced back through philosophical thought, through French Existentialism and Kant to the thought typical of the Enlightenment philosophers. The Enlightenment brought the discarding of certain ideas, such as citizenship and obedience, and replaced them with a steadfast devotion to individualism. Enlightenment individualism assumes that the individual is the starting point of history, that each individual has a right to freedom and basic liberties, and that reason is the vehicle that will propel humanity away from servitude under a tyrant toward a perfect and limitless freedom (1). Perhaps most importantly, by assuming that reason could better humanity, Enlightenment thought assumes that the utopian ideal is in the future.

This optimistic, future-oriented approach to history comes as a stark contrast to classical and biblical thought. Classical thought assumed that the ideal age was that of the heroes about which Homer and the epic poets wrote, and biblical thought assumes that the utopian ideal was the Garden of Eden. During the Enlightenment, for perhaps the first time in human history, the entire world was looking toward the future rather than the past for answers. It is no coincidence that the scientific and industrial revolutions followed closely after the Enlightenment. This new framework of beliefs made the idea of progress possible and propelled technology forward at great speed. An intense motivation to achieve the future and its promise of utopia was born.

This is not to say that technology did not exist prior to the Enlightenment. Technology in the form of inventions and tools did exist, but after the Enlightenment technology became something different—it became part of a framework, or a set of beliefs and norms, that we use to make sense of the world we inhabit. For example, belief in science or religion might color the way in which we explain and understand the world and could be part of a framework. Another important characteristic of a framework is its subtlety. We are most often unaware of the influence our beliefs have in our daily judgments and decisions. In this subtle way, technology emerged as a sub-framework within the Enlightenment framework.

Enlightenment thought preached that it is out of self-interest (namely, the need for protection) that early societies formed. From there, technology and society moved civilization forward (2). The Enlightenment created a picture of our social evolution that makes progress possible; it conceived a utopian ideal that could be achieved through the use of reason. The framework that emerged from the Enlightenment remains intact in contemporary times, and hereafter will be called modernity. Progress exists because of our commitment to the beliefs of modernity.

Frameworks: Creating Technology and Progress

In light of its beginning in Enlightenment thought, progress is best understood by using the language of Thomas Kuhn's *The Structure of Scientific Revolutions*. Kuhn believes that the development of scientific theories is not continuous. Instead of one theory leading to another, Kuhn suggests that each new theory is the product of previously failed theories. . He uses as example the replacement of Newton's theory with Einstein's when Newton's theory encountered problems explaining planetary motion. Kuhn's philosophy relevant to the topic at hand is his discussion of how the history of scientific theory is only continuous in appearance and not in reality. Nevertheless when a new theory becomes dominant, the text books are rewritten to show how past theories led to the current theory. In reality two theories explaining the same phenomenon are not reconcilable, and one will replace the other (3). However, we want to organize past theories into a continuum leading to new ones

We deal with progress in exactly this way. The idea that progress is real causes us to create a logical story about how the past might lead us to the future. In this sense progress is itself a framework because it causes us to organize the world in a very specific way. We organize events into strings, with one event leading logically to another. When considered in this way, progress can be looked at as an ordering of things using reason.

Now let me return to our ideas about technology and the goal of achieving the limitless, free human—all derived from Enlightenment thought and part of the framework of modernity. Martin Heidegger most clearly articulates our modernist view of technology in his essay "Questioning Concerning Technology." Heidegger explains that technology is not merely inventions and machines but a way of thinking about the world that allows for such

machines to be invented. More specifically, Heidegger describes technology a way of looking at the world as "standing reserve" (4). In other words, technology causes us to see everything as a resource, as something to be used by man. A tree is no longer just a tree when one inhabits a technological framework, it is timber or firewood.

Heidegger sees this transformation of the world into standing reserve as a negative phenomenon. First, because this view of technology becomes totalizing, that is, by viewing the world as standing reserve we are unable to perceive it in any other way. Second, because technology yields tangible and often seemingly positive results, we become more and more committed to it. We have, in fact, become so committed to technology and its machines and tools that we would be unable to renounce the framework that technology has built (4).

Therefore, technology is no longer a promise for absolute freedom; instead, it limits our freedom to see the world as anything but standing reserve. In this way it strengthens its hold over us to a point where we can no longer free ourselves.

Now progress and technology fit very neatly together. The totalizing and dependence-forming qualities of technology are a result of progress. As a dominant part of our modern framework, progress reorganizes technology's past to show how each invention has made life easier, leading us closer to achieving its promise: humanity without limits. It is this synthetic story that makes technology appealing and causes us to commit ever more to it. Technology produces results; and progress causes us to organize those results so that they appear to be leading us forward, as our modern framework tells us such events should. Therefore, technology gains its appeal by its seemingly progressive nature.

Recognizing the Contingency of Frameworks

This relationship between technology and progress leaves us with a new problem: Even though technology and progress belong to the beliefs and attitudes of our modern framework and are nothing more than products of our perceptions, they still seem valuable and real because they produce such tangible effects. The problem is, then, if we inhabit modernity as a framework, how can we escape believing that the reality of the framework is absolute universal reality? Horkheimer and Adorno's *Dialectic of Enlightenment* provides us with an answer. Horkheimer and Adorno define the Enlightenment, or modernity, as a framework. They provide a different approach to understanding how frameworks function by comparing frameworks to myths and very cleverly demonstrating that modernity has all of the characteristics of the ancient myths.

In the past we perceived the world through a framework composed of myths. Like myth, modernity is nothing more than a set of beliefs and norms that act like a lens through which we perceive and explain the world (5). Just as myth explained and organized the ancient world so too does the Enlightenment framework function to organize and explain the modern world. The distinction is that myth assumes explanations to be based on gods whereas modernity requires science and reason to be a part of every explanation. The point here is that modernity functions in exactly the same way as ancient myth, but both modernity and ancient myth provide different explanations to the same set of problems. Granted, modernity's solutions yield better more verifiable results, which is why ancient myth has died out and modernity endures. But because other frameworks existed in the past, it is conceivable that other frameworks will exist in the future (6). Modernity, our current beliefs and way, will not last forever; just as ancient myth was replaced, so too may it be replaced.

Reclaiming Freedom

At this point it is appropriate to take up the work of Michele Foucault, who devoted all his work to showing that frameworks (which he called epistemes) were contingent. He believed modernity a particularly insidious myth, as it has the totalizing tendency that was discussed by Heidegger. Furthermore, Foucault believes that the Enlightenment's preaching of individualism has in reality spawned conformity as everyone tries to be unique, and that the notion of freedom is self-defeating because, as part of modernity, freedom falls under modernity's control. He holds that we have become so committed to science and reason as norms that we miss out on knowledge that might be gained through other systems, such as art or religion.

For Foucault modernity is totalizing and imprisoning. The idea of freedom and a limitless human is created by modernity. Our ideas of freedom itself are constraints, as they depend on historical context. So how is it possible for freedom to exist beyond its definition in a given framework? He suggests that by recognizing the contingency of frameworks, we also recognize that the framework might change; and this very awareness destroys the totalizing nature of any framework (7). It is only from this perspective that I believe freedom is a viable possibility. Simply by realizing other possibilities, commitment to specific frameworks diminishes and a more complete perception of the world is possible. By recognizing the contingency of a framework, we become free.

To finish let me return explicitly to progress and technology. In my opinion, neither technology nor progress can be overcome by humanity, nor should they be. Both have their uses, but their totalizing natures must be removed by recognizing that they are nothing more than contingent frameworks. In fact, progress could be considered nothing more than your taking a goal-oriented attitude and fitting the evidence at hand (history) into movement up that ladder toward your imagined goal. Progress is something that each one of us creates individually through our future-oriented and optimistic attitude about the world. Thus it is possible for each one of us to see beyond progress, to see a world that is not sequentially ordered by the rules of progress, to see past the rules that govern and limit our perceptions of the world.

As for technology, I believe we must be open to seeing the world as more than simply standing reserve. Foucault's concept of freedom dismisses the possibility of technological progress because it limits us to perceiving the world as standing reserve instead of making us limitless. Technology and progress are simply contingent frameworks; and progress in technology is nothing more than an appearance created by our attitudes toward the world. Upon reflecting on my research, I have discovered that what we are really left with is a choice: Shall we choose Foucault's idea of freedom and the limitless possibilities it brings? Or shall we stay with our modern, largely unexamined concepts of progress and technology, which restrict our freedom and our vision of the possibilities of our world?

I would like to thank the generous donors who made my Summer Undergraduate Research Fellowship possible. Thanks to Professor Lisa MacFarlane for giving me the extra push that I needed to act on my desire to pursue my research interests. I must also extend my deepest gratitude to my mentor, Professor David Hiley, who has been incredibly generous with his time and expertise. He not only provided the foundation for the development of my research project, but my continuing interaction with him has fostered my love of philosophy along with my personal development. I am privileged to have had the opportunity to work with someone so dedicated and concerned for the development of his students. I would also like to thank Professor Val Dusek for his time and for making his extensive knowledge available to me.

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Author Bio

Patrick Ryan, from Shrewsbury, Massachusetts, is pursuing a Bachelor of Arts in philosophy. A freshman-year course entitled "Exportable Nation" provided the spark for the research presented in Inquiry, but he was further inspired by a realization that "I couldn't even explain what technology was without pointing to a specific invention or tool." He further notes that he "was particularly skeptical of claims that technology could be humanity's salvation." With funding obtained through a University of New Hampshire Summer Undergraduate Research Fellowship (SURF), Patrick studied the works of various philosophers whose ideas addressed the topics of technology and progress. Patrick describes the most rewarding part of this research as the frequent contact with his advisor, Dr. David Hiley, which allowed him to explore his interests "while simultaneously gaining the knowledge of an expert." Patrick will graduate in the spring of 2009.

Mentor Bio

Dr. David R. Hiley began working at the University of New Hampshire in 1999 as provost and vice president of academic affairs before moving to the philosophy department in 2004. He met Patrick Ryan during Patrick's freshman year, and as a result of that early discussion Patrick later sought him out as a Summer Undergraduate Research Fellowship (SURF) mentor. According to Dr. Hiley, serving as Patrick's mentor was a terrific experience. "He consumed everything I mentioned that he should read, then read thoughtfully, wrote persuasively, and came to our meetings eager with questions and observations," said Hiley. "It was as stimulating for me as it was for him." Dr. Hiley specializes in political philosophy, history of modern philosophy, and twentieth-century philosophy. In 2005 he served as a mentor to philosophy student Roger Eichorn, whose research appeared in Inquiry '06.