Technological disputation

Memo by Francisco De Abreu Duarte

Anthony Rosborough (EUI) and Francisco De Andreu Duarte (EUI) discuss the statement: "*Technology is neither good nor bad – nor is it neutral*" (Melvin Kranzberg), "Technology and History:'Kranzberg's Laws"

This event has been organised by the Technological Change and Society Interdisciplinary Research Cluster

Anthony opens the discussion. Where does the discussion come from? A work from 1985, which needs to be put in historical perspective. Kranzberg himself was a historian, and therefore the extent to which his theory or idea on this was prospective and prescriptive is somewhat called into question. Further, any work from the 1980s should be regarded as limited in its idea where technology might go.

With these caveats aside, we can dig deeper into Kranzberg's quote by assessing his own elaboration of it:

"By that I mean that technology's interaction with the social ecology is such that technical developments frequently have environmental, social and human consequences that go far beyond the immediate purposes of the technical devices and practices themselves, and the same technology can have quite different results when introduced into different contexts or under different circumstances."

His own elaboration of the quote: environmental, human, and social consequences. The same technology can have different impact in different contexts. Anthony stresses the aspects of consequences and results.

The statement ignores the deontological view of technology outside its normative definition of good or bad. Kranzberg's view is indicative of the instrumental theory of technology, whereas Martin Heidegger represents largely the substantive view – that technology is a form of destiny. These two authors represent distinct theories on whether there is inherent morality or normativity in technology and technological thinking.

Anthony finds middle ground, claims technology is ambivalent because it has social and political consequences, and embeds social and political values. It is more of a circular process (or co-construction) rather than cause-and-effect. To this effect, he quotes Andrew Feenberg's book *Critical Technology*.

Francisco's also builds his take on Kranzberg's 1987 paper. He stresses the importance of unintended consequences. He draws parallels to the evolution of social media which started with dreams of freedom (Arab Spring) and years later turned out to have challenging consequences (Cambridge Analytica and Trump's 2020). Even technologies that seem purely beneficial can be opposed by some stakeholders, e.g. a cure for cancer puts the oncological industry out of business.

Instead of analyzing technology from a moral point of view, Francisco states that technology is neutral with respect to its purpose, not its values. There is nothing definitive about the purpose of technology – every technology can be repurposed beyond its originally intended use. The example he gives is the one of a gun – it can be used to shoot but can also serve as decoration, artistic inspiration or simply to block a door.

A different issue Francisco tackles are unintended biases in technology. For example, the popular mobile game [Pokemon Go](https://www.cbc.ca) turned out to be biased in the selection of important locations to interact with others (gender, race).[1] But can we assign moral value when information is just fed into an algorithm? Continuing the gun analogy, we are feeding information to a gun, which is then firing itself.

Francisco ends his time asking Anthony how he would assess the moral or normative value of a technology without looking at its consequences.

Anthony replies to Francisco's opening statement by distinguishing between neutrality of purpose and neutrality of existence. The effects of technology's existence impose some values on society. Anthony remarks that the existence of technology forces upon us a choice to use it (or not) in a given circumstance. In this way, the decision *to not* use a given technology becomes a choice that we must make and therefore a type of normative or moral influence on society.

A participant shares his views from the political science perspective. He stresses that it is important to look at the normative values and the moral dimension, but he wonders about the interests of introducing a new technology (e.g. profits, assigning social credit points). Ecology of technology: it is a much bigger process, so you need to delve into political dimension, economic incentives, cultural context... Human input shapes the trajectory of technological evolution.

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[1] https://www.cbc.ca/radio/thecurrent/the-current-for-july-28-2016-1.3698477/pokemon-go-shows- how-technology-reflects-real-world-biases-says-prof-1.3698502

The technology represents what the businessperson or engineer intends to design. This motivates a view of technology as an ecosystem. Stefan agrees with Kranzberg that technology is a multi- dimensional problem. He proposes two main take-aways: technological development is a meandering process, and it is influenced by other factors.

A good introduction to philosophy of technology is Carl Mitcham (1994), *Thinking through technology*.

Form a historical perspective, the statement was addressed to historians and social scientists. He wrote to remind social scientists, e.g. historians writing about history of the cinema or photography, to remember the multidimensional aspect of technology. The statement can be pitted against writers like Jacques Ellul or also the Marxist theory which have a deterministic view of history. Nowadays, very few thinkers can be called technological determinists in a narrow sense.

A EUI Professor distinguishes between the intention when the technology was created and its current function (and the mechanisms that make it persist). His example is based on learning algorithms, which predict a place or a recommendation, and then influence the choice of the agent. These choices are not driven by values but by economic interests. Discrimination is a side-effect of the policy.

Attendee: All technology are social phenomena; it is important to accentuate the social context versus positivism and idealism. Technologies cannot be perceived as good or bad from a philosophical standpoint, but in their social context.

Cluster member: Recommender systems are not neutral because they allow us to be lazy, take away responsibility. This is discussed in the satirical novel "QualityLand" by Mark-Uwe Kling.

Another participant stresses the political economy of technology, for example with the social outcomes that followed the industrial revolution. He wonders what the effects of military developments in technology will be in society, including influencing us as academics.

A EUI Professor introduces efficiency, familiar to economists as a category, neither good nor bad nor neutral. A technology has efficiency enhancement as a purpose, otherwise it is useless. This is not good per se, as increasing efficiency in one part of the world might have bad consequences in other parts. Recent advances in artificial intelligence by computer scientists are motivated by economic incentives. Rather than having computer scientists forge ahead and have policy makers chasing behind them, we should have a process of innovation that already includes the values policy makers require.

PhD researcher: In Pokemon Go, the database was based on an earlier game where they crowdsourced from people's answers. In economics, by revealed preferences, when additional information increases the set of choices, this cannot be bad. But this is not the framework that economists usually use to talk about technology.

EUI Professor: technology is embedded in so many aspects that are unamenable by probabilistic estimation using deterministic process. Neutrality is more related to uncertainty than it is to morality. What is our distinction between science and technology? Scientists typically work on their own questions with sometimes catastrophic consequences. He mentions the satirical novel *Cat's Cradle* by Kurt Vonnegut.

A former EUI member comments on the cultural lag, the delay in social and cultural advancement to catch up with technological development. Earlier 20th century science and technology was evolving too fast and exceeded the capacity of scientists to see where it was taking us. This difference in pace made philosophers very nervous and gave rise to technological determinism or pessimism.

She also stresses the daunting task that is faced by the law when it has to regulate an emerging technology that could become anything. By claiming that law has a capacity to regulate everything, law is transforming technology.

EUI Professor: What do we mean by good or bad? Given the current social arrangements, would a technology have good or bad outcomes? For example, engineering viruses is bad, but would psychedelic drugs be used with moderation?

Anthony: Where do we go from here? Individual choice resonates with instrumental theory. Whether technology is good or bad depends on how we choose to use it. Determinism is fatalistic: once a technology sets a process in motion, there's nothing we can do about it. What would be a reasonable middle ground? Some technologies go beyond our individual control, to what extent do we have any control over that? Social democratic values require that we have some handle on the trajectory of technology and its influences on society. The process for how these technologies come about, and particularly who is involved in the decision-making process, will largely inform whether technologies can be said to be "good" or "bad".

Francisco: If one wishes to regulate a technology, one cannot simply look at all individual cases and craft individual solutions. The solution always demands general broad regulation. Take the example of the internet: the implication of a "cyberlibertarian" view that only depends on individual choice would be that it is impossible to regulate.

The point then is not so much which value we prioritize but rather who decides which value is good or bad. Especially for globally impactful technologies we do not have an answer yet.

Glossary:

[Technological determinism](#) (connected to path dependence in economics): nothing we can do about it, left at whim of tech.

Under deterministic: Just looking at technology it is hard to predict future or past. [Instrumentalism](#)

Readings:

Andrew Feenberg - *[Critical Technology](#)*

Carl Mitcham - *[Thinking through technology](#)*

Mark-Uwe Kling – *[QualityLand](#)*

Kurt Vonnegut - *[Cat's Cradle](#)*