

How Technology Alters Morality and Why It Matters

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Technologies can change our moral beliefs and practices. They can change both how we perceive and understand what is good and worth pursuing and what is right and worth doing. A classic example is the debate about technology and the value of privacy. Some argue that the prevalence of surveillance technology, combined with the allure of convenient digital services, has rendered this value close to obsolete. (A classic text on this would be [1]. A more recent one would be [2].) Others think that the technological pressure placed on the value of privacy means that it is more precious than ever and that we must do everything we can to preserve it (for example, [3]).

How exactly does technology alter moral beliefs and practices? And why should anyone care? (The ideas in the remainder of the article are based largely on two previous articles [4], [5]. Interested readers might like to check these out for more detail.)

Let us start with the first of those questions. When you hear talk about technology changing moral beliefs and practices, it is important to clarify that, typically, changes take place at the level of social morality and not ideal morality. Social morality concerns what people think they ought to do or value. Ideal morality concerns what they really ought to do or value. There are often mismatches

between the two. Social moral attitudes toward sex and procreation changed dramatically, in many societies, over the course of the 20th and early 21st centuries. The social acceptance of gay sex and gay marriage is one clear illustration of this. Whereas once, the majority of people rejected both practices as immoral, and legal systems explicitly prohibited them, nowadays, many societies accept them as permissible. This social change in morality, however, does not imply a change in ideal morality. Many moral philosophers would argue that the normative ideals of sexual autonomy, personal freedom, and toleration always permitted gay sex and marriage. The social change merely represents society getting closer to the ideal (and, of course, there are those who would argue the opposite).

Although the main effect of technology is on social morality, it is possible that technology could facilitate changes in ideal morality or, at the very least, open up new moral terrain that was previously inaccessible to us. One historical example of this is the moral disruption prompted by the invention of mechanical ventilation technology (discussed at length in [6]). This technology allowed doctors to keep patients “alive” after their brains had ceased functioning. This was a great boon for organ donation: keeping the patient’s circulatory system working allowed doctors to preserve organs for donation that would, otherwise, have been lost. But this, in turn, raised a number of important moral questions. Were

patients on mechanical ventilator systems, whose brains had ceased functioning, technically and legally “dead?” Was it permissible to artificially prolong their existence to facilitate organ donation? Eventually, most societies developed answers to these questions, redefining death as brain death and permitting organ harvesting, at least where the consent of the deceased and/or family is given. You could say that resolving those questions simply required the extension of pre-existing moral standards to a new scenario. So, nothing changed with respect to ideal morality. But you could also argue that the technology raised new moral questions, in a conceptual space that was previously inaccessible due to technological limitations, and thereby generated new moral rules and norms.

How does technology have such effects? The main answer is that technology changes how we interact with and understand the world. Think about the cell phone. It changes your interactions with other people and affects how you perceive and respond to the world. For some people, cell phones, coupled with video imaging and social media, have radically changed how they perceive and value their day-to-day experiences. Ethnographic studies of social media influencers, for example, suggest that, for them, mundane everyday moments—such as grabbing a coffee, talking to a friend, or buying a new outfit—are no longer experiences to be enjoyed in and of themselves but, rather, events that can

be captured, shared, and, ultimately, commodified (for example, [7]). Of course, technology isn't the only factor at play here. Technology intersects with other social institutions, norms, habits, beliefs, and ideologies. The value shift documented in the lives of social media influencers is also affected by economic systems, legal rules, and social norms.

Nevertheless, it may often be the case that technology plays a key role in disrupting or shocking an existing social moral system out of its previous equilibrium. In recent work with my collaborator Henrik Skaug Sætra, I have argued that there are six distinct mechanisms through which technology can provide such an exogenous shock to our moral systems. These mechanisms can intersect and overlap to create complex dynamics. They are as follows:

- 1) *Technology changes option sets*: In other words, technologies give us new ways of doing things or, in some cases, take away old options. This has moral implications because it raises new moral dilemmas and questions of moral permissibility. The example just given, of mechanical ventilation and the option it gave us of preserving a body after brain death, is an illustration of this.
- 2) *Technology changes costs and benefits*: In other words, technologies can raise or lower the moral (and other costs) associated with certain courses of action, thereby allowing us to access previously high-cost/risk values, requiring us to engage in new value tradeoffs, and so on. For example, effective contraception reduces the costs associated with casual sex, thereby enabling people to more readily access the value of sexual pleasure/intimacy.
- 3) *Technology enables new relationships*: Much of human morality is relational in nature, and relationships are a source of value and/or disvalue.

Technology can enable us to access new relationship partners, either human ones, through communications and transport, or synthetic ones, through artificial intelligence and robotics. Can we form meaningful and valuable relationships with these entities? Are they friend or foe?

- 4) *Technology changes role-related duties within relationships*: Technologies often affect what we think we owe one another, thereby altering moral expectations and duties within relationships. The creation of ubiquitous communications technology, for example, changes expectations and duties of availability and responsiveness in business and other settings.

- 5) *Technology changes the balance of power*: Technologies sometimes empower some people, or groups of people, at the expense of others. Sometimes this has an equalizing effect; sometimes it does not. Either way, this has moral implications, either by allowing a powerful group to prioritize its values and interests or forcing it to make concessions to a newly empowered group. For example, at least historically, the Internet has been found to reduce information asymmetries between buyers and sellers, thereby requiring a more deferential and honest approach from sellers. (A classic case study of this is Stephen Barley's work on Internet sales and car sales [8].)

- 6) *Technology changes moral perception*: Technologies give us new information, data, and ways of seeing and interpreting the world. This can affect our moral beliefs and practices. For example, adopting a "computational" model of the human mind can be taken to have normative implications when it comes to assessments of rationality, freedom, and individual welfare.

One of the hopes that Henrik and I had, when mapping out these six mechanisms, was that it would provide

engineers and designers with a useful framework for thinking about the moral effects of their technologies—not just in terms of how technology might align with or conflict with current morality but also how it might change morality itself.

But why should anyone care about such moral change? There are two main answers to this question. The first is that it is important from a practical perspective. Humans have always planned for and anticipated the future. If one of the things that is likely to change in the future is our social moral beliefs, then planning for and anticipating those potential changes is important. Many existing social institutions can be understood as an attempt to address the challenge of future moral change. Constitutions, for instance, are essentially commitment devices that attempt to limit and slow down the legal endorsement of future social moral changes. The second answer is that the fact that social moral beliefs and practices change over time. Technology can play a role in this process, which might itself have moral significance. It could be that our present moral beliefs and practices are wrong and that we should accelerate or promote changes with technological assistance. Alternatively, it could be that our current beliefs and practices are closer to the ideal, so we should slow down or discourage change. This is something everyone involved in technology should care about.

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