In what kind of world do we live?

Jeff Malpas

Whatever else may be said of it, the contemporary world is above all else a world dominated by technology. Even the climatic and environmental crisis that looms large in contemporary experience is itself a consequence of our reliance on fossil fuel technologies coupled with the enormous and technologically-conditioned growth in human population over the last hundred or so years. We might say, therefore, that the kind of world we now inhabit is essentially a *technological* world. Nothing makes that clearer, perhaps, than the ubiquity of the contemporary mobile phone which is to be found in the hands of almost everyone on the planet from New York to Nairobi, Shanghai to Sydney.

Yet what does it mean for the world to be technological - to what kind of world, exactly, has technology given rise?

One response is that it is much *better* world – a world that is wealthier, healthier, freer, and, perhaps, happier; a world that is less violent, more equal, more stable and more secure. This is just what is claimed by contemporary thinkers such as Steven Pinker who argue that despite recent setbacks the Enlightenment project – the project of modernity – has been largely successful even if it is still incomplete.[1] For Pinker, and others like him, climate change is a challenge that can and will be overcome, and other contemporary catastrophes, whether of war, political turmoil, or natural disaster, do not detract from the generally upward trend in the betterment of human life over recent centuries and especially over the last fifty years. The sort of material improvement in the conditions of human life that is the focus for Pinker, and for many other contemporary champions of the Enlightenment project, is fundamentally based in technology and technological advance (so that the Enlightenment comes to be seen as itself more technological than philosophical). This is itself characteristic of the sort of optimistic progressivism that

Pinker exemplifies – such progressivism is typically founded in a belief in the capacity of human life to be improved almost entirely by technological means.

Yet at the same time as some look to the improvement of the world through technology – who see the world we live in as a technological world, but therefore as also a better world - there are also those, including the late Stephen Hawking as well as the entrepreneur and engineer Elon Musk, for whom technology, or certain forms of technology, also brings serious risks. Hawking, in particular, has suggested that developments in AI "could spell the end of the human race",[2] and in company with Musk and others, has called on researchers in this area to proceed in ways that will ensure that such developments are safe and beneficial.[3] AI is not the only area of concern, of course. Although contemporary genetic technologies offer huge benefits, in areas of food production as well as combating human disease and disability, many also warn about the dangers that are present in terms of the unintended and perhaps uncontrollable effects of some forms of genetic manipulation. And one can easily find examples of potential or predicted technological danger across many other domains.

Although serious, these sorts of concerns need not be seen, however, as undermining contemporary faith in technology – Hawking, for instance, benefitted enormously from technological advances that not only enabled his life to be prolonged, but even allowed him the capacity for speech. His fears about AI were more expressive of a cautionary attitude towards one form of technological development than indicative of any broader anxiety. But what if there was a deeper challenge here? – one that concerned, not any specific technology or type of technology, but contemporary technology as such? And what difference might that make to our understanding of the kind of world to which technology gives rise – the kind of world in which we now live?

Before going any further, we need to reflect a little on the ideas that might be at issue here, and especially the idea of technology. For the most part, we do not think of

technology in any general or encompassing fashion., but rather in terms of specific *technologies* – devices and processes that enable us to do things in ways that extend our pre-existing capacities. New medical technologies enable us better to care for patients or cure diseases; new media technologies allow us better to communicate, to educate, inform and entertain; new transportation technologies enable us better to move, or to move things, between different locations. Technology is thereby understood in a way that is essentially *instrumental* – as a means (an instrument) to achieve certain desired outcomes.

Yet although technology can be treated instrumentally, it cannot be reduced to a mere instrument. The reason for this is that technology has a systematic and encompassing character that extends beyond any single instance of technology. Different technologies may take different forms, but all technologies have a similar character, even if it is a character that is manifest to a greater or lesser degree.

We think of technological development in terms of finding new ways to do things, and uncovering new things that can be done, but the way technological development actually occurs is through connecting things together in new ways and with respects to new things. Technological connection occurs through the convergence of previously disconnected elements – different forms of knowledge, different things, different functions, capacities, or processes – and this convergence is what is made concrete in specific instruments or tools. So, to take a simple example, the combining of edged flint with twine and wood, and so also the combining of the activities and knowhow embodied in the production and use of these, enables the development of spear and axe. That combining of elements in a new instrument or process also enables other things to be accessed and brought together through the operation of that instrument or process. The shift from hand-held flint to spear or axe involves an expansion in capacity that brings more things into the range of action of paleolithic technology.

In pre-modern technologies, however, the degree of connectivity, and especially the degree of convergence, is relatively low, which means that different technological elements can often work effectively in a way that is largely independent of one another and most instruments have either a single function or a very general range of functionality. The hand-held flint works regardless, therefore, of whether one has a spear shaft, a spear, or any of the other trappings of stone age technology, and its uses encompass a general range of cutting and scraping. The contemporary mobile phone, on the other hand, not only arises out of the bringing together of a large number of different technologies, and not just the electronics embedded in the handset alone, but it also encompasses many different objects and activities, incorporates many different and differentiated functions, and is useless without the mobile network of which it is merely a small part. The mobile network is itself inter-implicated with the much larger technological system that includes power and supply networks, financial mechanisms, communication and information infrastructure, and much else besides.

Both connectivity and convergence become a more evident and significant feature of technological systems as they develop, and the connectivity of technology increasingly leads to convergence as technology develops – a convergence that involves both the convergence of technological systems (so it is less and less possible to talk of single technologies apart from the overall technological framework that encompasses an entire society) and the convergence of different things and activities within the same technological systems. Both the interdependence that comes with connectivity and the concentration that comes with convergence are what underpin the power of technological systems, but they also bring new and sometimes increased risks and vulnerabilities. The breaking of a flint implement may be a minor setback for a paleolithic hunter-gatherer; the breaking of a mobile phone, however, is likely to bring much greater disruption into the life of its owner, and a breakdown in some component that supports the mobile network, or on which it is dependent, is likely to result in much wider breakdown and disruption across many different areas of activity. Failure within

contemporary technological systems tends to affect the entire system rather than just part of it, and this is a feature of systematicity, and so of technology, as such – it is an increasing feature of contemporary technology, and so also of the contemporary world. Moreover, globalization, which can be viewed as the connectivity and convergence of technology writ large, means that local disruptions can sometimes have world-wide implications – as the global financial crisis of 2008 demonstrates.

The systematic character of technology – and so its essential tendency to connectivity and convergence – is readily overlooked or underestimated. This is a simple consequence of the fact that our engagement with technological systems is never such as to make evident the system in its entirety (which would be impossible anyway) but is instead always with particular parts of that system – usually with particular devices or processes. We never encounter the entirety of the Internet, for instance, but rather engage with this and that site as accessed through this or that laptop, phone, or whatever. As a result, the tendency to think of technology as instrumental – which is already present in the way we think of technology as indeed something we *use,* and so as serving our needs, interests, and desires – is constantly reinforced by the way technology appears through specific devices and processes.

The tendency for technology to be understood instrumentally – to think of technology in general as just a conglomeration of different technologies and of different technologies as like so many different instruments or tools – has two important consequences. First, it leads away from any real interrogation of the nature of technology – because there is nothing more to technology on this account other than its instrumentality. This means that we tend to overlook its systematic character, and, in doing so, we also tend not to recognize the breadth of technological systems or the way contemporary technology is thoroughly enmeshed with economic, as well as social and political structures. Second, it leads to a tendency to treat technology as both apart from us and controlled by us – because that is how we tend to treat instruments or tools, namely, as things available for

our use, to be picked up and put down as the need arises. Technology is therefore seen as subject *to us* – something that operates, like a tool, under our direction and control – rather than something *to which we might ourselves be subject.*

Yet the systematic character of technology does not allow us to stand apart from it nor is it such as to exclude us from its encompassing embrace. One can see this very clearly in the example of the mobile phone. Ordinarily, we treat this as a device that enables us to access other people in a way no longer tied to physical location, that gives us access to vast stores of information, and that can also perform a range of other tasks for which we previously used separate devices or systems. But the mobile phone does not only make other things (other people, other resources, other capacities) available to us, it also makes us available to them. In some workplaces, for instance, the mobile phone becomes a means to keep track of staff and their working schedules. And through the systems with which the phone connects us, systems like Facebook and Google, we are also made available to those systems – through the gathering of data, as targets for advertising, even political campaigning, and as potential consumers of new products that are themselves created by the phone and the technological systems with which it is enmeshed. Moreover, as is often pointed out, in our phone use, and the multiple interactions and engagements that it allows and encourages, we effectively contribute to the productivity, not only of the communication companies with which the phone is linked, but to a myriad of other web-based companies and corporations among whom, once again, Facebook and Google loom large.

What is evident in this example is the connected and convergent character of contemporary technology, but what it also shows is precisely the way we are ourselves drawn into that connected and convergent structure. And this is something we can see across almost every domain of contemporary life – the example of the mobile phone being salient only because it is so intimate and so familiar. One can find similar examples of the way we have become subject to technological systems (and not only through

specific devices but also through decision-making processes and mechanisms, forms of organizational structure, and new modes of spatial ordering and control) in management and economics, in media and communication, in education and information, in law and government, and just about anywhere else one cares to look. One could say that this is because technology has invaded all of these domains, but it is perhaps better to say that all of these domains are being shaped by the same features that are at the heart of technology as such.

Technology connects things, but it does essentially through connecting things in terms of certain shared features – and that means that things appear within technological systems only in terms of the features that the technology itself recognizes and appropriates. Technological systems thus tend to reduce the things over which they operate to mere instances of more general phenomena. In this respect technology has a reductive and homogenizing tendency – something particularly evident in the case of contemporary digital and managerial technologies which treat almost everything in terms of number and quantity. The increasing reliance on algorithmic decision-making processes, present almost everywhere from economics to the judiciary, brings with it a reduction of human life and activity to calculable quantities – rather than singular individuals, we become mere data points, instances of larger-scale patterns and populations. Consequently, not only do we become subject to technological systems, but how we appear tends to be determined by the manner of that subjectification, and this is especially evident in the way the connectivity and convergence of technology is worked out in social, political, and economic terms.

Technological connectivity means that the things over which technology operates lose differentiation, and, at the same time, technological convergence means that there is increased concentration around, and so a form of increased differentiation of, those nodal points around which the technological system is configured – hence the prominence of the technological device. But because technological systems are also social, political, and

economic systems – embodied in them and inextricably bound to them – technological systems also give rise to forms of social, political, and economic concentration and associated differentiation. Contemporary technology thus gives rise to massification or social uniformity at the same time as it produces extreme forms of social and political inequality and can even be seen to contribute to the rise of repressive and authoritarian forms of government. In this respect, it should be no surprise that contemporary technology is so inextricably bound up with the structure of contemporary capitalism especially as exemplified in companies like Google and Facebook, as well as Apple and Samsung,[4] or that the increasingly anti-democratic character of politics around the world is so often tied to new surveillance, media, and information technologies (whether as the means to promulgate anti-democratic views or more directly to enable forms of political repression and control).[5]

If we do not always pay attention to technology's social, political, and economic – and also *ethical* – effects and implications, then this is itself a result, in large part, of the tendency to view technology in instrumental terms. Equally, when we do look more closely at the way technology operates social, politically, and economically, then we are also likely to be led, not only to examine technology more critically, but to consider technology in its more encompassing and systematic character. Moreover, to look more closely at technology in this respect is indeed not a matter of identifying some potential threat posed by particular instances of technology, but of seeing how technology itself might harbor tendencies and features that are much more fundamental and far-reaching in character.

In this respect, the real threat to humanity that is posed by technology does not lie in the possibility of an out-of-control AI – the concern of Hawking and others like him. Instead it is to be found in the much more immediately present danger that accrues from the disappearance of any real sense of the human other than as it figures within the framework of contemporary technological systems. Even though technology arises as an

integral part of human societies, technology tends to obliterate the distinctively human, and it does this because the way it operates is through the way in which even human being is taken up within the structure of connectivity and convergence, and so becomes merely another elements within technology's all-encompassing reach. We may think of technology as human, but the reality is that it is essentially de-humanizing.

To be human is fundamentally a matter of being open to the encounter with oneself, with another, and with the world in the singular uniqueness of that encounter and of every such encounter. This encounter comes prior to any technology – it is not an encounter shaped by questions of use, instrumentality, connectivity, or convergence. The encounter is relational, but relationality is not the same as the connectivity that characterizes technology. In the latter, what is connected is also rendered the same – homogenized and generalized – whereas in the former, in genuine relationality, what is related retains its own identity, and so is never exhausted by any specific relation, even though what is related appears only in and through the relation. Relationality, in this sense, underlies both identity and difference at one and the same time. It is thus that the fundamental human encounter is, as the philosopher Emmanuel Levinas suggests, the face-to-face encounter with another – in a mode of relationality that the other always exceeds. Technology operates against such an 'excessive' appearance of the human, instead reducing the human always to something lesser, something seemingly controllable, manipulable, determinable – just as technology functions with respect to everything over which it operates. In this respect, technology recognizes outside of the technological that can bound or limit it, and this itself sets it in opposition to the human as distinct from the technological. The refusal of bounds also sets up other problems for technology in the manner of its own operation – technology cannot encompass its own failure, because it cannot encompass its own limit.

The account of technology that I have set out here remains only a sketch – as does the very contrast between technological connectivity and human relationality. But it is a

sketch that can readily be elaborated to offer a much more complete view of the contemporary landscape. Such elaboration would involve paying much more attention to the issue of bound and limit, and along with this, to the essentially spatialising character of technology, and so also to its effacing of place and placedness (something have explored in more detail elsewhere). Yet if one admits the accuracy of the sketch in its general outlines, then there is a further step to be taken here in respect of the characterization of the contemporary world.

The world in which we live is indeed a technological world; it may be a materially 'better' world, even if it is also a world threatened by new dangers; it is an increasingly connected and convergent world. But it is also a world in which it is harder and harder to find a place for any genuine sense of human being.

Some might argue that this is all to the good – that it is precisely the misguided centering of the world on the human that is the cause of the catastrophic environmental situation in which we find ourselves. Yet if the environmental crisis is indeed technological in origin, as are so many of our contemporary crises, then although it arises as a causal consequence of human being, its deeper origin lies in the particular character of technology as connective and convergent, and so as tending towards the obscuring and even the obliteration of the human. The loss of the human that is at issue here involves a loss or obscuring of any genuine sense of human fragility and vulnerability, of human responsiveness and responsibility, of the human capacity to question, to listen, and to reflect. Moreover, with the loss of the human, what is also lost is any real sense of the world as it might exist apart from the connectivity and convergence of technology. The world becomes indistinguishable from its technological appropriation and representation – and so the world in which we now live is a world that has to some extent ceased to be a world at all. No longer is the world that which encompasses and exceeds what is, including technology, but instead appears as that which technology would itself

encompass or else as identical with the connected and convergent system that is the technological.

[1] See Stephen Pinker, *Enlightenment Now: The Case for Reason, Science, Humanism, and Progress*, New York: Viking, 2018.

[2] https://www.bbc.com/news/av/science-environment-30289705/stephen-hawking-ai-could-spell-end-of-the-human-race, Dec 2 2014 (accessed Jan 2019).

[3] 'Research Priorities for Robust and Beneficial Artificial Intelligence', https://futureoflife.org/ai-open-letter, (accessed Jan 2019)

[4] For two recent accounts of the relation between contemporary technology and capitalism, see Luis Suarez-Villa, *Globalization and Technocapitalism: The Political Economy of Corporate Power and Technological Domination* (London: Ashgate, 2012), and Shoshana Zuboff, *The Age of Surveillance Capitalism* (New York: PublicAffairs, 2018).

[5] See, for example, Steven Feldstein,' How Artificial Intelligence Is Reshaping Repression', *Journal of Democracy*, January 2019, Volume 30, Number 1, pp.40-52, available online at https://carnegieendowment.org/files/201901-Feldstein-JournalOfDemocracy.pdf (and in abridged form at https://carnegieendowment.org/2019/01/09/how-artificial-intelligence-is-reshaping-repression-pub-78093).