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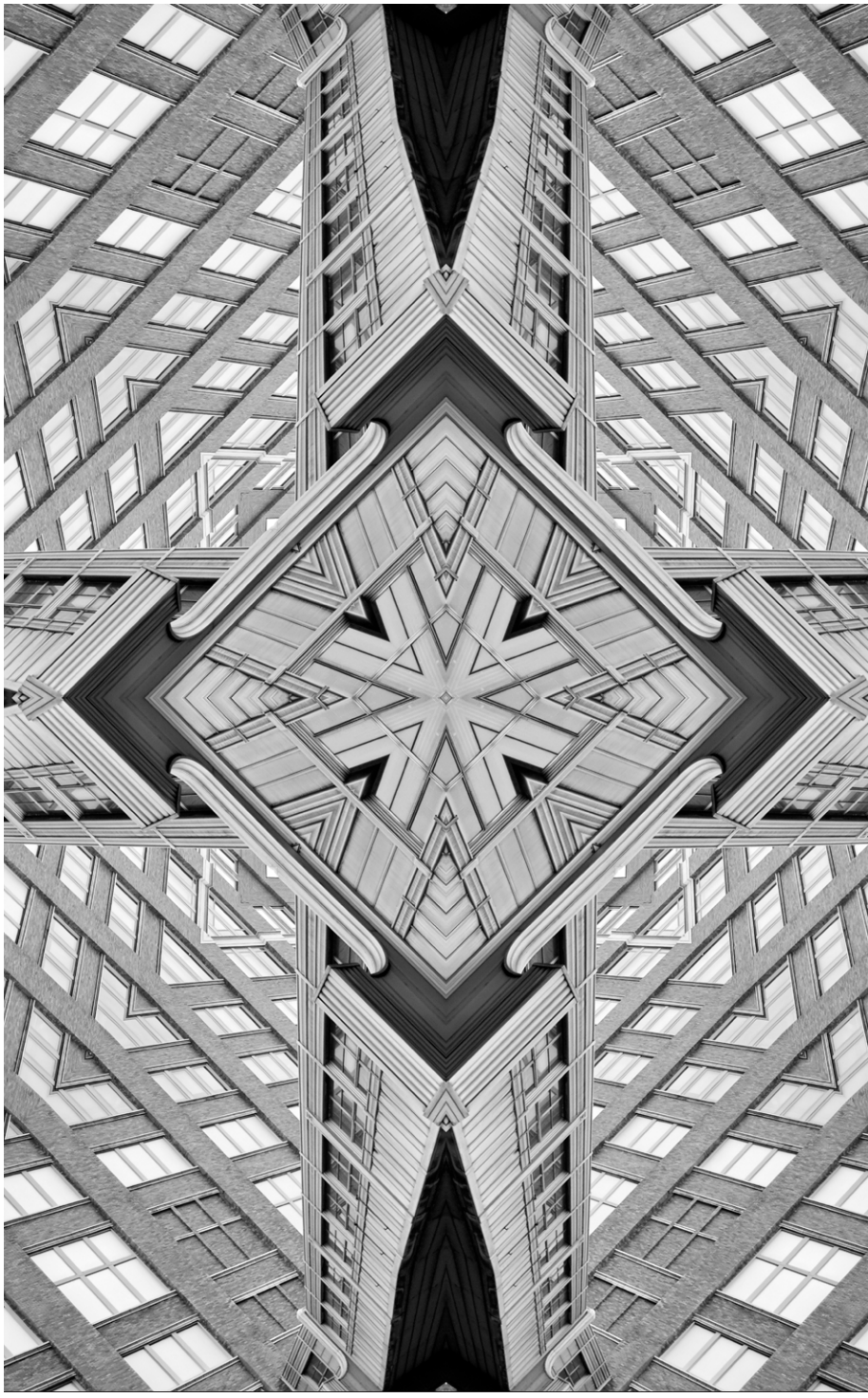

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The Perils of Tech-Utopian Thinking

Stuart Rollo

Abstract

This brief explores some of the deeper, and more troubling, effects of the pervasive spread of the logic of technology on social, cultural, and political life. The author critiques the predominant tech-utopian perspective, which frames ever further and faster technological development as critical to continuing social progress, using Neil Postman's concept of the 'technopoly'. The brief uses as an example the influence of the logic of technology on international security dynamics and the emergence of economic and military tech-rivalry between the United States and China. It concludes with a reiteration of the observation that has been made by many historians and philosophers in the past: that we need to ensure that technological development is geared towards, and bound by, human and social ends.

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Introduction

Discussions on the benefits and harms of technological innovation are often limited to accounts of the merits and disadvantages of particular technologies insofar as they make human life more or less easy, efficient, comfortable, and safe. Less common are discussions that investigate the differences between exactly *who* benefits, and *who* pays the costs, of the rollout of any given technological innovation. Rarer still is enquiry into the deep transformations that occur not as a result of the effects of particular technologies, but of the implementation of a logic of technology at the very foundations of human society, culture, and politics. Neil Postman's concept of the development of 'technopoly', a society that subordinates all political and cultural life to the dictates of technology, is particularly clarifying on this point.

Such discussions are rare for the simple reason that many of the assumptions of tech-utopians are, in a sense, baked in to the formula of (now neo)liberal capitalism that has served as the governing ideology of our political transition into a technological society. Tech-utopians see an ascending arc, generally beginning around the time of the Enlightenment, of successive and compounding technological revolutions across industry, agriculture, health, transport, and communications, that have led to a more connected, interdependent, and prosperous world. The most effusive panegyrists of technology will even point to its supposed pacifying effects on the global system and declare: plenty brings peace.[1]

Tech-utopianism is in essence a digital continuation of the Whig theory of history—a deterministic appraisal of the positive and enlightening influence of technology. The idea has become increasingly prevalent the world over, having radiated out of the hubs of the global tech industry for decades. Tech utopians see technology as more than a suite of tools to reach human ends; rather, technology itself shapes a more perfect human society that would be impossible without it. Society is thus not just enabled by tools and machines, but modelled on their logic in its values, institutions, and culture. This mode of thought, as will be explored in more detail later, has come to shape not just social and economic, but also foreign and security policy in the United States and elsewhere.

In a cultural climate so deeply influenced by technology, its myriad ill effects go largely underappreciated. The impact of technologies, as Neil Postman pointed out, is not simply in what they *do* (for good or ill), but also in what they *undo*.[2] Indeed, a large degree of deleterious doing and undoing has been occurring since the social centring of technology began in earnest in Western Europe during the 18th century. The Enclosures, the Clearances, the regimentation of what had been organic, localised, and idiosyncratic social life into an industrial society

structured around market logic produced urban squalor, social depredations, and significant physical, material, and spiritual reversals of quality of life among the average worker in the Western industrialising countries. The negative impacts suffered in the West were far surpassed in the colonised world that was coming to provide the territory and raw materials required by industrialisation and the nascent technological society. The burden of supporting this transformation came at the vast expense of the local populations on the global periphery, in terms of their lives, material wealth, and cultural integrity. The edifice of the technological society, and the very real boons that it has brought with it, were built on these foundations.[3]

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The Development of Technopoly

Human society has been engaged in a long process of technological innovation for its entire history, and the discovery, production, and exchange of novel technologies lies at the heart of civilisation building. In China, India, and West Asia, highly technological, complex, and scientifically developed societies have existed for millennia. Yet despite engaging in the long and persistent developments of tools and material processes over centuries, as well as producing epoch-shifting singular advances across fields like mathematics, metallurgy, and chemistry, these societies were never defined by their technological acumen in the same way that the West, and increasingly the entire modern world, has come to be.

Today, technology—due to the near limitless opportunities for productive and commercial expansion it brings—infringes upon all social, cultural, traditional, and religious norms, customs, and ways of living that would otherwise disrupt technological development. Lewis Mumford, appraising the transition to a technological society that was already occurring in the United States in the 1930s, described the situation thus: "The habit of producing goods whether they are needed or not, of utilizing inventions whether they are useful or not, of applying power whether it is effective or not pervades almost every department of our present civilization."[4]

The effects of technology Mumford described have become far more intense, pervasive, and globally distributed than they were in the 1930s. All societies throughout history have been shaped by tools and technology, and had their customs and culture reoriented around them; in the premodern world, however, this occurred as a slower and more dynamic process, whereby the tools and technologies themselves, and their uses, were strongly bound by social and cultural norms. It is only under capitalism and its unbounding of the relentless surge of technological innovation that those social practices and ways of living that were once stable and solid have begun to melt into air, and technology threatens to define society and culture with no serious countervailing force.

Historian Fernand Braudel believed that, in the premodern world, it was the "slow, mute, and complicated" mixture of social and cultural forces that tended to shape how and when technologies were adopted.[5] Leading theorists in the study of the social and political implications of technology tend to agree that, from the 19th century, this dynamic has become inverted. Today it is technological forces and innovations that are constantly acting to shape and reshape society, creating a new type of society referred to as a 'technocracy' by Neil Postman. According to Postman, in a technocracy everything must give way, in some degree, to technological development. The social and symbolic worlds become subordinate to technological development. Rather than being integrated into

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culture, technology and tools come to attack existing culture and to supplant it. As a result, all of the components of the pre-technocratic world, the traditions, norms, myths, politics, rituals, and religions—have to fight for their lives.[6]

The technocracy, bound as it is to the dictates of a logic of technological innovation as 'progress', does not yet entirely subsume the social and symbolic worlds.[7] However, with the coming of the digital revolution, Postman saw the West, and particularly the United States, transitioning from a technocracy into a technopoly, a society anchored completely in an instrumentally rational and technological approach to the understanding of humanity and its place in the world. Under the conditions of a technopoly, any vestige of Braudel's 'slow force' of the social regulation of technology is replaced by an ever more rapid pursuit of technology as an end in and of itself, and as the key ingredient in the solutions to any and all questions of social, political, and economic organisation that arise. It is, in Postman's words, "the submission of all forms of cultural life to the sovereignty of technique and technology."[8]

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Technopoly and International Relations

Particularly in its spiritual home, the United States, the ideology of technopoly has also come to shape approaches to international security and global affairs. Tech-utopianism was already prominent in American visions of geopolitics by the latter stages of the Cold War, exemplified by then President Ronald Reagan's assertion in 1989 that the "Goliath of totalitarianism will be brought down by the David of the microchip."[9] But it was during the immediate post-Cold War era, with the ascendance of the concept of the 'end of history' and the purported permanent triumph of the American model of economy and governance, that the approach to foreign affairs that promised to reorder and improve the world through a potent mix of technology and free market capitalism became policy orthodoxy.

This was nowhere more evident than in the approach of the Clinton administration towards China during the 1990s where it was decided, in the aftermath of the Tiananmen Square protests, that encouraging more global business, foreign investment, and technological integration into the expanding web of digital networked communications, would act to reshape China in the West's image. In January 2000, after visiting an internet café in China, then President Bill Clinton remarked that it was the most interesting and ominous sight that he took in on his trip: "the more people know, the more opinions they're going to have; the more democracy spreads."[10]

While the Clinton, Bush Jr., and Obama administrations executed their foreign policy in varied ways, they all harboured a belief in a causal link between the spread of technology, increased economic interconnectedness, a growing middle class, and transition to democracy. This perhaps reached its apogee in 2010, when the Secretary of State at that time, Hillary Clinton vowed to make internet freedom a cornerstone of American foreign policy: "Freedom of information at cyber speeds will open up regressive and repressive societies and regimes to the wonders of modern liberalism."[11] This tech-exuberance has now met a growing level of circumspection, as the United States itself is embroiled in internal political struggles over perceived limits to free speech, and the ability of organised persuasive communications and overt and covert censorship to undermine democracy.

As a result of shifting geopolitical conditions, created in no small part by the American embrace of the financial opportunities offered by economic integration with China during the 1990s, a brewing rivalry between the United States and China as the two competing poles of the global economy, and two potential claimants to the position of global leadership in the 21st century has emerged. Supremacy in networked digital technologies will be the crucial factor dictating relative economic power between the two countries during this period.[12] In the coming decades, the tech sector is forecast to have a far higher rate of growth than

the traditional economy, and rivalry in the area will be fierce. Key technologies like artificial intelligence, renewable energy, and quantum innovations, are seen as critical to holding global power as the century unfolds. China sees these as areas of technology that may allow it to leapfrog the United States, and the US sees them as areas of the high-tech economy where its own continued dominance could result in the permanent relegation of China to the status of a lower-tier industrial power.

William Burns, the current director of the US Central Intelligence Agency, has confirmed that, in his view, technological competition will be the main arena for rivalry with China in the years ahead.[13] China has already supplanted the United States in several areas of global economic leadership. Over the past 40 years China has transitioned from a marginal economic outsider to the world's largest economy (by purchasing power parity), trader, manufacturer, and holder of foreign exchange reserves.[14] The United States remains the global leader in many of the most strategic industries of the 21st century economy, including arms manufacturing, aerospace engineering, and digital networked communications. Maintaining this lead, by cordoning off the American 'National Security Innovation Base' and 'Defence Industrial Base' (i.e. the national base of technological innovation) from Chinese imitation and competition has become the most visible priority in American strategic planning in its growing rivalry with China.

Under President Trump this was most visibly and comprehensively manifested in the 'Clean Network' program, which was established to exclude 'untrusted' Chinese carriers from the US telecommunications network, remove Chinese applications from American mobile app stores, exclude Chinese businesses from accessing personal and proprietary information held in American cloud storage, and ensure the integrity of the physical infrastructure, like undersea cables, that underlie digital networks.[15] While heralding a radical departure from Trumpian politics, the Biden administration has demonstrated near-total continuity in prosecuting technological rivalry with China.

In one of his first major addresses to the houses of Congress, President Joe Biden stated that to win the 21st century struggle against China, the United States had to "develop and dominate the products and technologies of the future."[16] In October 2022, perhaps the most significant action of the brewing techno-economic conflict was undertaken by the United States government, when it announced a set of sweeping export controls on advanced computing and semiconductor manufacturing items to China.[17] Gregory C. Allen, Director of the AI Governance Project at the Center for Strategic and International Studies, described the actions as the beginning of "a new U.S. policy of actively

strangling large segments of the Chinese technology industry—strangling with an intent to kill."[18]

Economic and strategic rivalry at the cutting edge of technological innovation both broadens the field of hostile international action, and stifles shared global benefits that are created through the integration of international technological cooperation. The perils of the combination of extremely potent new technologies and technopolistic societies unable and unwilling to restrain or regulate their spread in the face of fierce geopolitical rivalry should not be underestimated. The potential harms of the unchecked spread of Artificial Intelligence into human decision-making, particularly in the sphere of international security, are today relatively well-known, there is less recognition of the possibility of catastrophic downsides to other vanguard technologies. The advantages that quantum supremacy, as one example, would confer are so massive that there is a certain strategic logic behind conducting pre-emptive military strikes should it appear that a rival is developing a clear technological lead in the field. Ian Bremmer has argued that the threat of this structural opposition in technological innovation is becoming so great that governments should immediately prioritise sharing information on developments in quantum computing, one of the most critical and increasingly protected new technologies, because "even the threat of such a breakthrough could trigger World War III."[19]

"Economic and strategic rivalry at the cutting edge of technological innovation broadens the field of hostile international action."

Conclusion

The benefits of technological innovations, particularly in terms of material wealth, health, and luxury, are widely heralded. But the cascading surrender of social life to technology, and the slide towards technopoly, threatens to curtail the moral, intellectual, and cultural horizons of humanity. The need to reassert the social and human element over the technological is a key theme in much of the work of the great theorists of technology of the 20th century. Heidegger, McLuhan, Mumford, and Postman all reached similar conclusions on this matter, emphasising the need to rediscover and reassert the uniquely human element, expressed through the blending of the artistic and the intellectual rather than just the scientific and rational. In Mumford's words, "In order to reconquer the machine and subdue it to human purposes, one must first understand it and assimilate it."[20]

This task is made all the more difficult today for the abstract, complex, and layered system of technological interventions that now underlies much of human social, economic, and political life. In the 1960s Marshall McLuhan was grappling with the essence of machine technology, particularly as it manifested in the production and dissemination of media, and how it restructured human society to be more machine-like.[21] How much more difficult, less immediately visible and visceral, and less comprehensible to the non-expert will the effects of quantum science, machine learning, and AI and their implications for human society be for 21st century global society to grapple with? Still, with more advanced and more abstract technologies driving a significant part of society's current 'progress', and with more advanced technology emerging at the centre of international strategic rivalry and war-making, it has become more imperative to understand technological developments deeply, and give serious weight to their costs as well as benefits.

(This brief is a slightly expanded version of the author's chapter in ORF's Raisina Files 2023, 'Adrift at Sea: Lighthouse in the Tempest?'*.)*

Stuart Rollo *is a Postdoctoral Research Fellow at the Centre for International Security Studies at the University of Sydney.*

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20, Rouse Avenue Institutional Area,
New Delhi - 110 002, INDIA
Ph. : +91-11-35332000. **Fax :** +91-11-35332005
E-mail: contactus@orfonline.org
Website: www.orfonline.org