

Some Questions on Technological and Social Determinism



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I wish to use this opportunity not to provide answers to the question of which is right – technological or social determinism - as posed partly by the theme of this conference. Instead, I would pose some questions that ought to be asked about the nature of technological and social/cultural determinism, and about the interplay of culture and technology. This being a conference of the Asian Media Information and Communication Centre (AMIC), I would also like to raise questions related to the similarities and differences between Asian and non-Asian societies, and between Asian societies.

Definitions

Determinism is about effects and causality. Technological determinism is the idea that technology, from inventions such as the wheel to the motorcar to television and the Internet, has its own autonomous developmental path. It also posits that technology is primary and drives social change. Social or cultural determinism on the other hand posits the reverse causal relationship. Theories such as the Social Construction of Technology argue that society shapes technology, rather than the other way round.¹ There are positions in between, including the theories that technology and society are inseparable, and that their effects on each other are contextual.²

Technology gets entwined with many social issues: gender, class, race, ethnicity and religion. Here I will largely confine myself to discussing politics, that is, power and authority and their arrangements in society. This is not to say that issues such as gender and class and religion are not political. Far from it. Many of us, I would hazard practically every one of us, hail from places where these issues are deeply political. But I want to see these issues through political lenses, such as those of the freedom of expression and organisation, and the mobilisation of people to make their existence felt.

¹ Trevor Pinch and Wiebe E. Bijker, "The Social Construction of Facts and Artefacts: Or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other", *Social Studies of Science* 14 (August 1984): 399-441.

² See the articles in Donald MacKenzie and Judy Wajcman (eds), *The Social Shaping of Technology: Second Edition*. Open University Press (1985). See also Jennifer Daryl Slack and J. Macgregor Wise, Cultural Studies and Communication Technology, in *The Handbook of New Media*, eds Leah A. Lievrouw, Sonia M. Livingstone, SAGE, 2006; and Jennifer Daryl Slack and J. Macgregor Wise, *Culture + Technology : A Primer*, Peter Lang (2006)

Technology is political

I will deal with first the technological issues, then the societal ones. Langdon Winner's influential pre-Internet 1980 paper "Do Artifacts Have Politics"³ - Winner makes the point that "artifacts are political", that, in other words, technology is not neutral. Firstly, he argues, technology, to which he includes architecture and design of objects, can be arranged that they achieve social and political ends. Bridges into an exclusive island can be made too low for hoi polloi-laden public buses to pass through in Long Island, New York; university campuses can choose not to have subway lines extend into their campuses for the same reason. These are technical arrangements of 'non-political' technologies to achieve manifestedly political, in this case, undemocratic, ends. Second, technology can have features which are inherently political, Winner argues. Plato's famous ship tossed by in a hurricane and nuclear power stations seem to require centralised command and control systems, and are hence antidemocratic by necessity. Solar panels and wind turbines however seem inherently more democratic: they let everyone generate their own power, indeed, nowadays even to share it with others through the power grid. Others have said that technologies have a 'value slope', that is, 'they conduce to certain forms of life and of consciousness, and against others'⁴. As for media technologies, Harold Innis introduced the idea of the bias of a technology towards centralization or decentralization of power⁵.

History of media

Looking at the historical development of media, it would seem that the story is one of the inventions of new technologies which gives ever increasing power to the people, though this is not a story without its fits and starts and dead-end alleys. Rock with texts carved on them and stone or bronze steles are not that easy to make or to render portable, much less pocket-sized. Silk, banana leaves and papyrus and the ink marks contained therein, you can lug around. Also, even though their production and reproduction requires literacy, they do not need you to be handy with say, the chisel. Later inventions, the wood block, and then typeset printing, were not just democratic advances but revolutions, if largely from the point of view of consumers. Newspapers became possible with this technology. More recently, the power equation is tipped considerably towards ordinary people as producers with the cyclostyling machine – how many of us know or even remember that wonderful technology these days! The photocopying machine came a number of decades later. It is another step forward in being a better cyclostyling press: from original to copy without the need for the often inky-fingered intermediate step of stencil-making.

Television is a big step backwards, tilting the equation back against citizen producers. Like nuclear power stations they need big investment to set up and run. Radio is an interesting case. In one way, the technology is inherently more democratic than not as it is not that hard or expensive to start up a radio station. Indeed, ham radio is the precursor of the Internet in many ways, and allows citizens to get the news out in times of crisis. But in most jurisdictions, radio stations must be licensed or be illegal, even in cases where limited bandwidth is not an issue. This limits the widespread use of radio by citizens as a way to disseminate their knowledge and views.

The Internet

³ Langdon Winner, "Do Artifacts Have Politics?" in *Daedalus*, Vol. 109, No. 1, Winter 1980.

⁴ Iain Boal, quoted in Jennifer Daryl Slack and J. Macgregor Wise, 'Cultural Studies and Communication Technology', in *The Handbook of New Media*, eds Leah A. Lievrouw, Sonia M. Livingstone, SAGE, 2006

⁵ *Ibid.*

So much has been written about the democratizing potential of the Internet that it needs no repeating here. As has been noted by others, many of the same promises for democracy, equality and world peace which were proposed for the telegraph, telephone, radio and television were made when they were new. Authors Charles F. Briggs and Augustus Maverick wrote:

Of all the marvellous achievements of modern science [it] is transcendently the greatest and most serviceable to mankind ... The whole earth will be belted with the electric current, palpitating with human thoughts and emotions ... How potent a power, then, is the [it] destined to become in the civilization of the world! This binds together by a vital cord all the nations of the earth. It is impossible that old prejudices and hostilities should longer exist, while such an instrument has been created for an exchange of thought between all the nations of the earth.

They were not writing in today about the Internet but in their 1863 about the telegraph.⁶

I would add that the 'prosumer' (or 'prosumer') revolution of the Internet and of Web 2.0 in particular, is fitting in two senses of the term. One is the more widely acknowledged idea of the blurring of line between producer and consumer. The other is the less discussed but equally important notion – evinced in the phrase, for instance, "prosumer" video camera - between professional and amateur. With both 10 megapixel images and Flickr a free and easy click away, who needs anymore the full-time landscape photographer? In this second sense too, the 'prosumer' revolution has levelled the playing field for all.

Politically, governments which used to enjoy having the only or the last word -- we need not name them here for we and they know who they are -- increasingly find themselves well, talked back to.

But we sometimes forget that there are also the anti-democratic features of the Internet. At the highest global level, the international dispute over the control of the root zone file, the master address book for the Internet, is about why only one or one particular country should have the final say over a global technology. In many countries, you need an Internet Service Provider (ISP). They control the pipes of information flow, and are often made gatekeepers of content by the authorities. These pipes also start within national boundaries and need to cross borders: they can and have been switched off by governments. But governments, except the inept ones, do not even need to resort to such crude measures: there are subtle ways of making subjects behave. For instance, the ISPs in many countries would ultimately surrender customer information and surfing records if asked to by their governments, not too many questions asked and privacy guarantees notwithstanding. And, surveillance is all the easier too with the Internet, then with the telephone. It can be more easily automated, for one.

Some would argue that there is always a way to get around blocks and snoops. That may be true technically, but for the vast majority the hurdle of getting over the blocks and snoops is either too high to jump over or too bothersome to climb over. I hate Facebook's privacy policy (or lack of anti-privacy policies) and Google's relentless collection of data about me, but I have given up neither. Am I the exception or the norm?

This brings us nicely into the realm of the economics of the Internet and role and power of big companies. Network effects – as much technological as social – are what make big online companies bigger. I would just point out the worry expressed by some that free is not

⁶ Their book *The Story of the Telegraph* was quoted in Elon University/Pew Internet Project site *Imagining the Internet: A History and Forecast* <http://www.elon.edu/e-web/predictions/150/>

necessarily good, and that the ones who end up losing the most are not business as a whole but artists. See for instance, *Serfing the Internet* by Astra Taylor who writes that “the idea of building a massively profitable industry on the uncompensated labour of [artists] would strike most as loathsome, not daring and innovative. And definitely not progressive.”⁷

Society

It is empirically true that societies are different. But it is not self-evidently true that they should be. Over the long term would we all end up roughly the same? That sameness would be a certain threshold level of democracy in politics, capitalism with socialist characteristics like free or cheap public goods, and adherence to the universal declaration of human rights. The reason that we have not ended up this way since so far in the six or seven thousands years of history, does not mean that we won't end up so over the next several thousand years.

So when we speak about the long-term impact of the technology, the time-scale is of crucial importance. The short-term impact of the invention of gun-powder was livelier Spring Festivals and other celebrations in China thanks to fireworks. In Japan, the middle term effect of the gun, because of a ban by the Tokugawa Shogun, was nil.⁸ Sociologists during those times, if there had been any, would have had very different conclusions about the impact of this technology.

We can dismiss both the short-term and hard determinists who predict that the Internet would quickly turn authoritarian societies into liberal democratic ones. The evidence is clearly otherwise. China, Vietnam and Russia are good examples. We can dismiss this as the result of censorship regimes that are unsustainable; after all, the Internet wants to be free (in the sense, as it has been wittily put, of free speech rather than free beer). Even in societies where the Internet is relatively free and where the promotion of its use by business and government is active official policy, democratisation has only materialised to limited extents. I would place among these Malaysia – which has a no Internet censorship for a very interesting economic reason that we will not go into. I would also add Singapore – which has comprehensive and severe laws against political expression but has not enforced them with the assiduity it has with other legislation such as those against drugs or demonstrations. I would like to propose the term “sustainable authoritarianism” for them.

After this general discussion, I would like to end by posing these questions:

Are there path dependencies arising from a nation's history and cultural heritage/heritages? If so this would suggest a typology of countries based on the past, and though there would be interactions and effects based not just the technology in question, but also the way in which that technology is introduced? Are the British fundamentally different from the Germans, or are they local variants of a deeper Western culture? How about Koreans, Chinese and Vietnamese vis-à-vis their Confucian orientations?

Arjun Appadurai writes: “The central problem of today's global interactions is the tension between cultural homogenization and cultural heterogenization... at least as rapidly as forces from various metropolises are brought into new societies they tend to become indigenized in one or other way: this is true of music and housing styles as much as it is true of science and terrorism, spectacles and constitutions.”⁹ Unanswered is which of the two –

⁷ Astra Taylor, *Serfing the Net*, <http://www.thebaffler.com/viewArticle/121>, December 1st, 2009
<http://www.renewamerica.com/columns/hines/050328>, March 28, 2005.

⁸ David Kopel, Japanese Gun Control, 2 *Asia Pac. L. Rev.* 26-52 (1993)

⁹ Arjun Appadurai, 'Disjuncture and Difference in the Global Cultural Economy', *Public Culture* 1990 2(2):1-24

the homogenised aspects of culture or its indigenised portions - is the wine and which the bottle.

What is the nature of that path dependency? That is, in what way does the past and present social/political/economic circumstance condition the impact of technology such as the Internet, and vice versa? Indeed, in what way do they condition what the technology is used for? For instance, the Internet can be a tool for democracy, but for some it is educational or infotainment uses that is most attractive. Books can be read, but also are also in some instances, effective doorstops. Consider also the work of Richard Nisbett, which shows East Asians tend to value harmony while Westerners prefer individualism and choice. It suggests that there is an underlying set of values and attitudes through which different peoples see the world. Westernised Asians – such as Singaporeans or Asian born in America – are somewhere in between, a sign that attitudes are to some extent malleable.¹⁰

But Nisbett's other work with Dov Cohen on the culture of honour among southern whites in the US indicates that not only are the regional cultural differences within a country and ethnic group in that country, but also that these differences stretch back centuries and are persistent.¹¹ Geert Hofstede's work in organisation sociology on attitudes also shows that there are national and regional cultural traits and these are persistent across time.¹² These include what he calls cultural dimensions such as expectations about equality in power arrangements, individualism versus collectivism, avoidance of uncertainty, and the "Confucian" dimension of long-term versus short-term outlook. Some of these have obvious implications for politics. Less clear is how persistent these traits are in a society. It would be interesting to track them in societies such as Korea, Taiwan and Indonesia which have transitioned to greater democracy whether the attitudes have changed. That might answer the questions whether Korean democracy – and attitudes towards democracy - is different from that in America or France.

The Internet changes how you do things: Email over snail-mail, downloading movies over going to the cinema, shopping from your living room. But does it change what you do, what you choose to do? And even more does it change who you are? In other words, is it merely instrumental, or is it transformational? In a study of the Malaysian elections in 2006 that we did at the Institute of Policy Studies, we found that the Internet, melded with other technologies such as the mobile phone, easy VCD duplication, and even the good old photocopier, allowed people to get information in new ways or previously difficult-to-get information more easily. Other than this change in how voters get their information, we also found what we term the "I am not alone" effect. The Internet allows people to find out that other people who are strangers to them but who are like that. Previously they would have been afraid to express their anti-Government views. But the knowledge gained online that they were not alone, seemed to have emboldened them to do things they would not have dared before: express their political views openly. It changed what they did. Did it change who they are for good? More research, perhaps of the longitudinal kind, needs to be done to show if it is so or otherwise.

What is the connection between individual freedom of expression and democracy? First, while the former is necessary for the latter, is it sufficient? Put another way, would an expanded space for free speech and action naturally need to a demand for a free press, limits on powers of the state, a vigorous civil society? In some countries such as Singapore, the wide freedoms of speech given to individuals, in the sense of atomised, private persons, rather than as members of some larger organisation or movement, seem to have not been accompanied by a call from the majority for greater democracy in the system. Secondly, is

¹⁰Richard Nisbett, *The Geography of Thought: How Asians and Westerners Think Differently - And Why*, Nicholas Brealey Publishing, 2005

¹¹Nisbett, Richard E. and Dov Cohen, *Culture of Honor: The Psychology of Violence in the South*, Westview Press, 1996

¹²Geert Hofstede and Gert-Jan Hofstede, *Cultures and Organizations: Software of the Mind*, McGraw-Hill U.S.A., 2004

the room or desire for freedom of one area – such as in consumer rights or in religious beliefs – correlated with that in other areas, such as politics? This is the great experiment in particular in countries, where citizen rights have grown in the domain of consumption as consumer rights but remains curbed as in that of politics. I wonder too whether the technological development that allows viewers to vote for the Indian, Chinese or Vietnamese allow will raise in their minds the question of why, if they can choose the best singer in their country through exhibition of her skills on national television, they cannot also do the same for politicians.

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