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Plus ça change, plus c'est la même chose mit vorsprung durch technik: the concept of progress in relation to design and technology curriculum

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Abstract

'You can't stop progress'; 'the more things change, the more they stay the same'; 'progress through technology'... 'Progress' is both the stuff of everyday conversation and the catchcry of ideologies. Historians, sociologists, authors, philosophers, politicians and advertisers engage with the term. Progress, at least in its determinist sense, seems neither stoppable nor a suitable candidate for interrogation. For some, progress is technology, or, technology is progress. Against such a background, much design and technology curriculum tries to 'keep up' with technological trends and innovations but can do so through little more than technical mimicry.

This paper sets out to clarify a variety of understandings of the concept of progress and to use these to inform design and technology education. Thus, in looking at progress, it presents:

- *discussion of common and elaborated understandings of the term*
- *a history of the concept (as it has distinct historical contexts) – for example 'The Idea of Progress' and its roots in the Enlightenment and the 20th century erosion of faith in the notion*
- *exploration of the relationships between progress and concepts such as technological determinism, technicism, optimism, pessimism, morals and happiness*
- *political and ideological contexts of progress.*

In the light of the above, the paper shows the contestable nature of progress and that this need not be a reason for its exclusion from design and technology curriculum. It is argued that a rich and ethically defensible concept of progress has a legitimate place in a democratic curriculum and that holistic, rather than technocratic, design and technology can accommodate such a concept.

Keywords

progress, enlightenment, design and technology, technological determinism, optimism, pessimism, democratic curriculum

Introduction

As with many terms that surface in D&T curriculum theory, 'progress' can easily fall foul of common (mis)understandings or pleas to 'common' sense. Is the construct 'progress' meaningful without critique? Do we shrug the shoulders and say 'the more things change, the more they stay the same'? Do we passively promote inevitability and say 'you can't stop progress'? Do we acquiesce to, or believe in, 'progress through technology' (Vorsprung durch technik – an Audi advertising slogan)? Such questions beg exploration.

'Progress' (the noun) can be made – towards some goal or destination of change, improvement or betterment – in which case one can be said to be 'progressing', in the verbal sense. There is an adjectival sense too. We can talk of progressive thinking, education, social movements or politics. Quantitatively, 'progress' may reflect a measurement of change from one point (in time, of place, in circumstance) to another. 'Qualitative progress' may involve a claim to improvement or a change for the better. Solomon (1995) offers progress as 'improvement over time, especially the gradual perfection of humanity' (Solomon, 1995: 722).

Sclove (1995) demonstrates how one of the preconceptions people hold about technology is that it equates, or at least represents, progress. This links with Solomon's distinction between progress in different realms. For example, 'progress' in technological development may not equate 'progress' in spiritual or ethical matters wherein lie deep philosophical issues about happiness and morals. Because we have progressed technologically in comparison with our forbears does not mean that we are necessarily happier or leading morally better lives. However, Solomon does comment that '...we can nevertheless learn from history, improve ourselves and progress beyond it.' (Solomon, 1995: 722)

Thus, to talk of progress begs clarification of what it is we strive for, claim to strive for or simply anticipate, of the future. 'The pursuit of the ideal' is a focus for Berlin (1998) who urges that, rather than seeking to create an unattainable paradise on earth, we continue a journey and understand the nature of that journey as we head for the ideal. He has argued

that 'There is no progress from the imperfect towards perfection, for the very notion of perfection entails an absolute criterion of value; there is only intelligible change.' (Berlin, 1997a: 101)

Some history of progress

There is broad acceptance that the concept of progress emerged in the Enlightenment period (Appleyard, 1992; Berlin, 1997a,b; 1998; Diamond, 1998; Ellul, 1964; Feenberg, 1999; Hobsbawm, 1995; Mitcham, 1994; Mumford, 1934; Postman, 2000; Silver, 1998; Uglow, 2002). Across much of Europe, this was the age of increasing knowledge about the natural world and of growing technological development which also brought a culture of questioning – scientific discovery, religious and political challenges, indeed, even the *right* to question. Tom Paine, along with some members of the Lunar Society, were both technologically creative and supported the French revolution. (The Lunar Society is described by one author as an '...informal bunch who...together...nudge their whole society and culture over the threshold of the modern... (they constituted a) powerhouse of invention' (Uglow, 2002: xiii)). Paine urged self-improvement ('Our happiness will always depend upon ourselves') and the '...progress of the human species.' (Keane 1995: 94).

While reason and the rational became *de rigueur*, the new age of 'the modern' and faith in progress brought reaction and doubt. Anti-Rationalist empathisers '...harked back to Rousseau, who contrasted the modern material world with a purer past...' (Uglow, 2002: 337). Questioning and scepticism played concurrently for different schools of thought.

'The idea of progress...is one of the great gifts of the Enlightenment. The eighteenth century invented it, elaborated it, and promoted it, and in so doing generated vast resources of vitality, confidence and hope. But the eighteenth century also criticised and doubted it, initiating powerful arguments about its limitations and pitfalls.'

(Postman, 2000: 34-35)

Ironically both Rationalists and Romantics could maintain faith in progress – the former because of advances in technology and science, increases in political and religious freedom and the decline of monarchies, while the Romantics, '...for all their scepticism, could take heart from examples of moral progress, such as the decline of slavery, the elevation of women, the growth of the concept of childhood, and a new appreciation of nature.' (Postman, 2000: 34). (No doubt increasing literacy could be added to the list.)

For Hobsbawm (1995), at the end of the 18th Century, 'Progress was most evident and undeniable in technology, and its obvious consequence, the growth in material production and communication.' (Hobsbawm, 1995: 26). By the 19th century progress seemed '...as real as gravity', a fact of life given:

'...special force by the great invention of the nineteenth century: the invention of invention. We learned *how* to invent things, and the question of why receded in importance. The idea that if something could be done, it should be done was born in the nineteenth century.'

(Postman, 2000: 39)

Penfold's (1988) research into the antecedents of D&T Education in the 1880s cites Ripper:

'We are entitled to expect from the schools substantial help towards the future industrial, as well as social, progress of the country... We believe that the early training of the children will have much to do with our future national progress...'

(Penfold, 1988: 11)

Despite two centuries of engagement with 'progress', settlement seems as elusive as ever. Postman (2000) takes an approach of problematising progress by juxtaposing the notion of a Theory of Progress with that of Progress as a Fact (a commonly held position). Meanwhile, Solomon has argued that at end of the 20th Century, progress as a concept has come to ill-repute – even (he cites von Hayek) 'the mark of a shallow mind' (Solomon, 1995: 722). There is no doubt that the last fifty years have brought a deeper questioning of technological 'progress'. Nuclear, chemical, information and biological technologies have all proved to be ethically, socially, environmentally and, consequently, politically problematic.

Progress and determinism

Any history of technological progress implies a time-consequence-values analysis and the issue of technological determinism arises. The view that any technology is necessarily a consequence of prior technologies and prior social or political circumstances holds power. The view that technologies are inevitable and unstoppable is common. Any sense that we can exercise our own, or collective, will over technologies is marginalised. The very notion of determinism *per se* is anathema to ethical philosophers who argue that the expression of free will is at the heart of ethical action and, conversely, to assume determinism is to deny ethical – or other – choice (Keirl, 2002; 2003).

Feenberg argues that 'Faith in progress has been supported for generations by two widely held deterministic beliefs: that technical necessity dictates the path of development and that that path is discovered through the pursuit of efficiency' (Feenberg, 1999: 77). He contends that determinism is based on two premises which he calls 'unilinear progress' and 'determination by the base'. In the former, technical progress follows a linear track from less to more advanced configurations. Each stage of technological development enables the next and '...there are no branches off the main line'. The latter refers to the ways in which we have to alter our behaviours and practices *as a result of having the technology*. Social institutions must adapt to the 'imperatives of the technological base' (Feenberg, 1999: 77).

Optimism or pessimism through progress?

'It has been said that the Lunar Society kick-started the industrial revolution... And all of them, though not always with great success, applied their belief in experiment and their optimism about progress to personal life and to the national life of politics and reform.'

(Uglow, 2002: 500-501)

Thus, 200 years ago, this driving force of ingenuity was itself driven by its optimism and by, more than the *idea* of progress, the *ideal* of progress. This sense of optimism-as-driver has deeper roots too as Leiss (1990) shows when he addresses 'Bacon's Wager' (Francis Bacon, 1561-1626). 'Bacon urged his contemporaries to take a chance on the immense benefits that sustained technological innovation would bring to society as a whole' (Leiss, 1990: 141-142). And Postman comments that, 'By the eighteenth century, the idea that history itself was moving inexorably toward a more peaceful, intelligent, and commodious life for mankind was widely held.' (Postman, 2000: 28)

For the pessimists, Hampsher-Monk (1992) offers commentary on Rousseau: 'A thinker of the Enlightenment, he subverts and denies the values and properties so often ascribed to it, opposing pessimism to its optimism, sentiment and will to its rationalism, and in particular rejecting its view of progress.' He argues that, 'There is a strong strand of historical pessimism in the Enlightenment;...' (Hampsher-Monk, 1992: 153). Importantly, he points out that one difference between Rousseau and his contemporaries was that, whilst their fear was that the ideals of the Enlightenment might not be reached, his was that they would.

To return to Solomon's (1995) notion of different *realms* of progress, it is possible to see these in both

optimistic and pessimistic lights. Progress on grounds of efficiency or convenience may be no measure of progress in terms of happiness or satisfaction. Thus, differing value systems interact and, as Mitcham (1994) says: 'Questioning the good of technological progress just makes people feel perplexed if not depressed. So why do it?' (Mitcham, 1994: 113).

Progress, technology and ideology

'Progress' in many guises is the puppet of ideology – often thinly veiled as such. Marxism and capitalism have both laid claim to progress (Mumford, 1934; Ellul, 1964; Kumar, 1995; Feenberg, 1999) and, recently, Kumar has suggested that 'the concept of the information society fits in well with the liberal, progressivist tradition of western thought. It maintains the Enlightenment faith in rationality and progress.' (Kumar 1995: 3). Mumford (1934) argued progress to be little less than 'an elaborate rationalising of the dominant economic conditions'. Progress was only possible through increased production, larger sales, mechanical improvements and more inventions '...which ministered to new desires and made people conscious of new necessities. So the struggle for the market became the dominant motive in a progressive existence' (Mumford, 1934: 185). In 1960, Packard reported a piece entitled 'Design for Planned Obsolescence':

'It said that the 'lifetime' guarantee, once a potent sales appeal, was losing its charm as restless Americans faced with the need (sic) of an expanding economy were in a mood to accept planned obsolescence...' in order to take the maximum advantage of our potential for productivity and technological progress'.

(Packard, 1960: 65)

Leiss (1990) criticises '...false notions that have grown up around modern society's fervent commitment to technological progress.' (Leiss, 1990: 5) and he anticipates Feenberg's (1990) 'determination by the base'.

'We are given the impression that modern conditions compel us to make our values and institutions conform with...technologies themselves. ...In discussions about the so-called information society, one Canadian federal government report states with a flourish: 'The advent of microelectronics is rapidly and irreversibly leading to a major and fundamental transformation of western society.' This is a good example of technological hyperbole – systematic and unwarranted exaggeration of the anticipated general social effects of new technologies.

(Leiss, 1990: 5)

Sclove (1995) offers six factors of technologies as a source of ideology. Of these, four are of particular interest. 'One of the most serious and prevalent misconceptions about technologies is that they are natural or inevitable rather than the result of contingent social choices' (Sclove, 1995: 103). He argues this idea to be 'dangerously false' because it '...hampers the establishment of a strongly democratic politics of technology.' Another factor concerns governmental and industrial suppression of technological alternatives '...and even the social awareness of such alternatives' (Sclove, 1995: 103). Governments may seek to justify to the public decisions made on grounds of technical necessity (or 'imperative') rather than expose the value-laden or political nature of such decisions. Meanwhile, firms may seek to suppress competition. These kinds of strategies deny alternatives of either technological or social choices, generate ignorance and perpetuate a single, linear model of 'progress'.

A third factor is that '...we lack a societal custom of subjecting technologies to critical democratic scrutiny.' Thus, we accept the introduction of technologies and systems by '...distant bureaucracies or depersonalised market forces' and support the notion that technology happens as a matter of natural course rather than being a 'partly explicit, partly tacit social product' (Sclove, 1995: 104). His final factor of technology as source of ideology he calls the:

'...global trend toward homogenising technological style, a trend that tends to obliterate alternatives... This trend has been exacerbated by the prevalent ideological conviction that change is inevitably 'progress', which contributes to ignoring, or dismissing as backward, local cultural and technological alternatives that manage to persist despite powerful contrary social forces.'

(Sclove, 1995: 104)

Other authors also articulate deep concerns about international and intercultural technology-ideology relations (Diamond, 1997; Gordon and Suzuki, 1990; Rybczynski, 1985). Berlin (1998) and Hobsbawm (1995) discuss the 'ideal of progress' and the belief that it created virtue and happiness. For some who held such a belief, a next step might be to do the 'right thing' and 'progress' other nations, then 'civilise' them and ultimately conquer.

Progress so far

The concept of 'progress' doesn't have a long history yet it has established itself as being capable of both simplistic construction and ideological contestation. Its seeming birth in the turmoil of the Enlightenment along with rationalism, romanticism and modernity,

has lead to its turning up in discussions of history, change, determinism, ethics and morality, happiness, optimism and pessimism, politics and, clearly, technology.

Progress is not a 'given', beyond dispute. It is complex, contestable and central, not marginal, to fundamental technological conceptions and challenges. As Berlin (1997b) argues, progress has the potential to carry forward worthy values, and for Sclove (1995), it matters in any critical democratic scrutiny. Unless a fatalist position is taken, it is possible to debate technological progress and, further, to argue the nature of a defensible progress for the future. To assume this position, one must see a role in a democracy for education.

Progress and design and technology curriculum

With greater interest than ever in technologies and their associated problems, there is also greater interest in their *study*. Just as technologies are no longer something that people just *did*, so technology education is about more than just skilling (although some might have it thus and do so under the banner of progress). The ideology of curriculum matters. To position students within a technocratic society in a technocratic education to serve, instrumentally, the needs of the technocracy is, to use technocratic jargon, efficient and productive. However, a democratic education is what serves a democracy and such an education begs a culture of questioning, scepticism and criticism to challenge the multiple presumptions of 'technological progress'. As progress and democracy are contestable so, then, might be an education for them.

Design-based technology education has already shown the way on this and there is an increasing movement to incorporate the interrogation of values and contested issues as a part of the productive process. Design is, after all, about weighing up competing variables. As students learn to critique technologies and to develop their critical design intelligence, they develop capacities that allow them to better play an active, rather than a passive, part in democratic life. This can be the educational response to Ellul's (1964) 'abdication of responsibilities'. At a societal level, D&T has the capacity to contribute through elaborated and values-rich (not restricted, technocratic) curriculum models. At the personal level, students learn to critique that which *technologically is* and to understand ways of designing that which *technologically could be*. They can learn something of optimism through design efficacy. Progress can indeed be constructed as a rationally and ethically defensible (and desirable) action and condition. Democracy is no more, or less, the pursuit

of an ideal. It has no stable or universally uncontested meaning. Such is the case for progress and such is the reason for its inclusion in a critical design and technology education.

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