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**Technophilia, neo-Luddism, eDependency and the judgement of Thamus**

**The Authors**

Darryl Coulthard, *School of Information Systems, Deakin University, Melbourne, Australia*

Susan Keller, *School of Information Systems, Deakin University, Melbourne, Australia*

**Abstract**

**Purpose** – The purpose of this paper is to reflect on society's relationship with technology and particularly our increasing dependence on electronic technology – so-called eDependency. The paper argues that technology is not neutral and we must engage with the moral issues that arise from our relationship with it.

**Design/methodology/approach** – Society's relationship with technology is examined through the lens of Socrates' consideration of the technology of writing. It identifies “technophilia” as a major theme in society and “neo-Luddism” as the Socrates-like examination of the benefits of technology.

**Findings** – While rejecting both technology determinism and technology presentism the paper argues technology is not neutral and does afford social change within a particular social ecology. The authors suggest that ultimately the use of all technology, including the technology underpinning eDependency, leads to important moral questions which deserve considered debate. The paper concludes by arguing that the Information Systems (IS) discipline should take the mantle of King Thamus and that the study of these issues should become a key concern for the discipline.

**Originality/value** – In an age of technophilia, this paper calls considered debate on the moral issues that arise from our relationship with technology, how it is appropriated, to whose benefit, and how we change it and will be changed by it.

**Keyword(s):**

eDependency; Technophilia; Technology appropriation; Social ecology; Moral character; Information systems; Information technology.
1 Introduction

The purpose of this paper is to consider our attitude to technology, eDependency, and its relationship to us. Drawing on the famous quote from Plato of Socrates on technology and writing in the Phaedrus, we apply Socrates' approach to our world of information technology. We consider the technophilia of our age, the need for criticism of technology, and lead into the discussion of eDependency. Finally, in the spirit of the Phaedrus we suggest how the information systems (IS) discipline must become more like Thamus — a normative discipline which critically judges technology and is not merely an advocate for it.

Possibly one of the most important early discussions on technology was that of Socrates. Socrates was illiterate and in the Phaedrus he considers the technology of writing:

Socrates: I heard, then, that at Naucratis, in Egypt, was one of the ancient gods of that country, the one whose sacred bird is called the ibis, and the name of the god himself was Theuth. He it was who [274d] invented numbers and arithmetic and geometry and astronomy, also draughts and dice, and, most important of all, letters. Now the king of all Egypt at that time was the god Thamus, who lived in the great city of the upper region, which the Greeks call the Egyptian Thebes, and they call the god himself Ammon. To him came Theuth to show his inventions, saying that they ought to be imparted to the other Egyptians. But Thamus asked what use there was in each, and as Theuth enumerated their uses, expressed praise or blame, according as he approved or disapproved. The story goes that Thamus said many things to Theuth in praise or blame of the various arts, which it would take too long to repeat; but when they came to the letters, “This invention, O king,” said Theuth, “will make the Egyptians wiser and will improve their memories; for it is an elixir of memory and wisdom that I have discovered.” But Thamus replied, “Most ingenious Theuth, one man has the ability to beget arts, but the ability to judge of their usefulness or harmfulness to their users belongs to another; and now you, who are the father of letters, have been led by your affection to ascribe to them a power the opposite of that which they really possess. For this invention will produce forgetfulness in the minds of those who learn to use it, because they will not practice their memory. Their trust in writing, produced by external characters which are no part of themselves, will discourage the use of their own memory within them. You have invented an elixir not of memory, but of reminding; and you offer your pupils the appearance of wisdom, not true wisdom, for they will read many things without instruction and will therefore seem to know many things, when they are for the most part ignorant and hard to get along with, since they are not wise, but only appear wise” (Plato, 1917, pp. 561-5).

In this story, Socrates first points out that the inventor of a technology is not the best judge of its utility; the inventor may not have the discriminatory skills and may also be biased. Socrates then subjects the technology to analysis – is it on balance good or harmful? He then rejects, rather scandalously and ironically, writing as it leads people to be dependent for their wisdom not on their memory but on their reminders of wisdom, their books.

Socrates too expresses the fear of new technologies where we change as a result of using them and that old skills are lost. In this paper, using Socrates as our starting point, we will examine the four areas of our title; technophilia, neo-Luddism, eDependency and judgement. First, we explore the technophilia of our age, and argue that neo-Luddism is not a rejection of technology but an important perspective from which to critically evaluate our relationship with technology. Next we explore some possible reasons for our growing disquiet about the eDependency phenomena, and suggest that a key reason may be a lack of engagement with the moral issues that eDependency raises. Finally we suggest if not a judgement, at least a suggestion for the IS discipline to play something of that role as critic.
2 Technophilia

In stark contrast to Socrates' position where King Thamus solemnly and quietly contemplates the benefits of a technology, our age for all its tree huggers, romantics and medievalists is an age of technophilia (Bauman, 2000, pp. 53-90, 2008, p. 144). Karl Marx writing in the middle of the nineteenth century captures the frenetic and technophilic spirit of the twenty-first century:

The bourgeoisie cannot exist without constantly revolutionizing the instruments of production, and thereby the relations of production, and with them the whole relations of society. [...] Constant revolutionizing of production, uninterrupted disturbance of all social conditions, everlasting uncertainty and agitation distinguish the bourgeois epoch from all earlier ones. All fixed, fast frozen relations, with their train of ancient and venerable prejudices and opinions, are swept away, all new-formed ones become antiquated before they can ossify. All that is solid melts into air, all that is holy is profaned, and man is at last compelled to face with sober senses his real condition of life and his relations with his kind.

The need of a constantly expanding market for its products chases the bourgeoisie over the entire surface of the globe. It must nestle everywhere, settle everywhere, establish connections everywhere (Marx, 1848, p. 13).

For Marx, nothing stands in the way of the revolutionary power of capitalism. It is quintessentially technophilic. This quote from the Communist Manifesto could have been made by the most neo-liberal economist. Indeed, in describing the spirit of capitalism, Schumpeter (1987, pp. 82-3) compared it to the Hindu god Shiva and his creative destruction power. Schumpeter explicitly identified the role of technology and technological progress for competitive advantage. Industry is technophilic whether it be the attempt to gain new markets with new products, “first mover status”, operational efficiency, or sustainable competitive advantage through strategic positioning. From an economic viewpoint, any concern with technology is about a lack of innovation and lack of market development rather than the reverse. This is technophilia.

The emergence of ICT has only recently provided this stimulus. Castells (2000, p. 17) persuasively argued that ICT provides a new “network economy” where information is now the basis of increased productivity. For instance, the flow of capital into stocks, currencies and commodities is now based on global information including such things as politics, weather predictions, climate change and social trends. The key point is that in the networked economy, ICT allows not only easy access to information but also the “action of knowledge upon knowledge itself” (Castells, 2000, p. 17) and this has become the basis for increased productivity.

Capitalism is technophilic and dependent on its creative destructive power. From this perspective, technology and innovation, harnessed to the market imperative, is a key driver of change, if not the driver. In the passage above, Marx exclaims that the “constant revolutionising” strips away the veils of custom and makes clear what is truly occurring in our world. From this point of view, technology harnessed to capitalism is enlightening, compelling us to see our real relations with each other.

Technology is Janus faced. It keeps the wheels of commerce turning but it opens the opportunity for radical change. The technophilic dream can thus range from simple technological fix of existing problems and greater convenience of our existing way of life to one of transformation of our worlds and our understanding of ourselves such as that proposed
One might see that even this technophilia future is contested. This contest can be seen to a degree in the two different visions of the technological future as encapsulated by Facebook and Wikileaks. With Zuckerberg's Facebook, the practice of self-disclosure to all competes with the profiling of information for marketers. Assange's Wikileaks, on the other hand, demonstrates the emerging concept of “radical transparency” and radical exposure of authority. Both sides of technology exist – a world of more of the same and more convenience and the world of radical transformation.

From the individual's perspective, technophilia is cool and youthful. It shows a willingness for youthful experimentation, a future orientation, flexibility, and an openness to change. In the mainstream, Apple products arguably epitomize and exploit these qualities most. In a world that idolises youthfulness, it is hard to beat technology as a means of demonstrating coolness.

Finally, electronic technologies' inherent future redundancy completes this technophilia. There is always new hardware, new software, new applications and upgrades making last year's computer, mobile phone, “tablet” and peripherals out of date and an ever present sign that one is lagging behind. The newest is best, the old is junked. Electronic technologies exemplify the consumerist world:

[...] the new emphasis on the disposal of things, rather than on their appropriation, suits well the logic of a consumer-oriented economy. People sticking to yesterday's clothes, computers, mobiles, cosmetics, and habits would spell disaster for an economy whose main concern and the condition sine qua non of survival is a rapid and accelerating acquisition of purchased products and their subsequent consignment to waste, and for which swift waste disposal is a cutting-edge industry (Bauman, 2005, p. 308).

In conclusion, it would appear that we live in a technophilic age both from the point of view of the underpinning economics of capitalist production and that of distribution, namely consumerism. This fundamentally informs how we appropriate technology. That is, in the main we appropriate technology for capitalist enterprise and for our consuming ends; these are the “bedrocks” of our social ecologies.

3 Neo-Luddism

In the light of the technophilia of our age, to question technology as Thamus does in the Phaedrus is seen as a form of “Luddism”. However, as the partly reproduced Luddite anthem below makes clear, the Luddites were concerned with fair wages and prices “established by custom and law”:
The guilty may fear, but no vengeance he aims
At [the] honest man's life or Estate
His wrath is entirely confined to wide frames
And to those that old prices abate
These Engines of mischief were sentenced to die
By unanimous vote of the Trade
[…]
Let the wise and the great lend their aid and advice
Nor e'er their assistance withdraw
Till full fashioned work at the old fashioned price
Is established by Custom and Law
Then the Trade when this arduous contest is o'er
Shall raise in full splendour its head
And colting and cutting and squaring no more
Shall deprive honest workmen of bread

From “General Ludd's Triumph” (Palmer, 1974, pp. 286-8).

Indeed, EP Thompson in his celebrated work *The Making of the English Working Class* (Thompson, 1968, pp. 492-3) argued that the Luddites were not simple reactionaries against technological change itself but instead criticised the purposes to which it was put. And in this spirit we use the term “neo-Luddism” to characterise the task of putting new technology to examination.

Technology is, as Kranzberg's (1986, p. 545) first law states: “neither good nor bad; nor is it neutral”. At this point, however, it is necessary to consider the relationship of technology to social change and the twin theoretical dangers of technological determinism and technological presentism. We are not suggesting that the technology causes change in our relations and ourselves. Instead we argue, that how things are seized and taken up, “how they are appropriated” reflects human agency. Discussions on technology need also to consider the warnings of Wellman (2001, p. 2032). Wellman (2001, p. 2032), in writing about the internet, argued the following but his argument applies equally well to most if not all technology:

Too often the debate has been (i) Manichean: The Internet is bringing heaven or hell, but nothing in between. (ii) Unidimensional: The Internet is such a powerful force that other considerations, such as gender and status in an organization, are ignored. (iii)Parochial: The Internet should be considered as an entity in itself, rather than as fitting into the full range of work, community, and daily life. (iv)Presentist: The Internet is such a transforming force that long-term social trends, such as the pre-Internet move to networked communities, are irrelevant.
Rejecting Manichaeism outright, we suggest that it is precisely these characteristics of how a technology is taken up (or resisted) that impact the outcomes produced by the technology. That is, how a technology is appropriated is influenced by:

- gender, class and status;
- the design of the technology and how it fits into the problems, solutions, escapes, hopes and fears of our everyday life; and
- how the technology works within long term trends.

To question technology and to submit it to evaluation in a technophiliac age is to be a neo-Luddite. So where are the courtroom and the judges of technology? Technology should be evaluated but such evaluation should not be of the technology alone it should include how it is appropriated and taken up.

The appropriation of technology implies more than the properties of the technology. It implies a social ecology. By social ecology (Kranzberg, 1986, p. 545) or information ecology (Davenport and Prusak, 1997, p. 3; Nardi and O'Day, 1999, p. i) we mean a “system of people, practices, values and technologies in a particular local environment” (Nardi and O'Day, 1999, p. 49). The term “ecology” is appealing as a metaphor because it emphasises a process of dynamic complex interactions, conflicts and struggles that lead to particular ecological outcomes. Ecology implies an embedment of use within a horizon of social practice and possibility. This horizon of possible ends, “the intentional arc” of Merleau Ponty (Dreyfus, 1996), and the emergent possible uses of the technology that the properties of the technology enable, is often referred to as its affordance (Gibson, 1977, p. 67). We use, adopt and adapt the technology in particular ways in order to achieve certain ends that are within the socially ordained envelope of possibility and probability.

Technology provides conditions and opportunities for change that we may or may not take up. How technology is taken up or appropriated will be contested much as the Luddites contested how technology was used. In this sense the laying bare of relations, as suggested by Marx, is the laying bare of a power contest as to how technology is appropriated and whose interests predominate.

Another way of considering these issues, and drawing more explicitly on Foucault (1991, p. 45), is to suggest that technology typically has constraining and enabling qualities that are taken up within the context of the problems and solutions to everyday life. The net outcome is a product of quotidian struggle: the struggle of living life within a particular social ecology. Here “social ecology” reflects the horizon or envelope of concerns, problems, hopes and dreams of a given time and culture.

When we evaluate technology we are effectively evaluating it within a social ecology. In this way it is little like the evaluation of plants: Lantana in Queensland, Australia is a noxious choking weed threatening bushlands, but much further south in Victoria it is considered to be an attractive exotic plant confined to cultivated gardens, while this same plant is a native to the tropical Americas. Similarly, the internet may spell plagiarism and Facebook in the student labs, Wikipedia and e-shopping at home, while it lives in harmony in its native lands of the academic office.

The question of “beneficent” versus “maleficent” use and appropriation becomes one of use within a context – a social ecology. For instance, when the e-mail protocol simple mail
transfer protocol (SMTP) was designed in 1982 the number of internet users was small and mainly consisted of universities, military installations, and corporate research labs. Connections were slow, often unreliable, and the number of hosts was so small that all participants could recognise each other (Strauser, 2005). In this environment, the protocol was designed for reliability rather than security. SMTP was simple; there were no checks on the sender's identity and it used an “open relay” cooperative model whereby mail servers could accept mail intended for other systems and relay it on towards its final destination. This arrangement meant that e-mail had a fair chance of being delivered despite the patchiness of the network. However, the very features that made SMTP so effective in the early days of the internet have been exploited by distributors of viruses, worms and spam (Peter, 2004). Indeed, today spam has become the “noxious weed” of the internet accounting for approximately 95 percent of all e-mail traffic (Broersma, 2010). In the context of a few select users on an unreliable network, SMTP provided simplicity and reliability. In the context of millions of internet users and high speed reliable networks, SMTP means spammers and hackers have an ideal medium to proliferate their material. In one social ecology SMTP is “beneficent”, in another “maleficent”.

As we suggest earlier, our technophiliac world is a consumerist world, and to question technology is to be a neo-Luddite. The overarching, or predominant social ecology is that of the consumerism of liquid modernity (Bauman, 2000, pp. 53-90) and that technology will primarily be appropriated to further the problems and aspirations that beset that world. Technology appropriation will be informed by and form part of this consumerist overarching social ecology. It is within this social ecology that we must evaluate the technology.

4 Judgement: moral character and eDependency

Returning to our opening fable, Thamus observes that the reader is not wise but only appears to be so. The reader for Socrates has not ingested knowledge but appears to us in our modern academic sensibility as ironically someone who has “rote learned” by “swallowing the textbook”. A further irony is that case most of us reading this will think that Thamus was wrong in his judgement of writing. We would almost have certainly forgotten Plato and Socrates had such memory relied on verbal history.

Plato here may well have had the sophists of Greece in mind as much as he had the critique of writing: the appearance of having wisdom and the use of rhetoric and other tricks to do so, much as the lazy student uses the internet for their essays. Books or the internet are “bad” when used for such purposes. Such purposes may be tempting and the technology may make such purposes easier to do, but they are not caused by the technology.

Socrates seems to have identified the nub of the unease we feel with the general issue of eDependency. To begin with, it is not dependency per se. We are, and always have been, dependent on technology. Homo sapiens are homo machinus. It cannot survive without machines, without technology. To that extent we are and always will be dependent on technology. To that extent eDependency will be no different. eDependency from this point of
view is the level and degree of dependency we place on information technology within the horizon of concerns of our consumerist social ecology. What is wrong with not being able to add up without a calculator, to not being able to read a map, to not remember an appointment without an iPhone, to only connect with people through the media of a screen?

One of the most commonly expressed arguments against this form of dependency on electronic technology is that we lose some form of understanding or mental ability or agility. Underpinning this tends to be the view that doing large sums by hand, logarithms and slide rules and so on are “good for you”. This may be true but the onus is on those against such change to demonstrate this loss and that such a loss is not compensated for by a new mental ability or understanding. That mathematics up to university level can be readily produced on a calculator may now mean that mathematics is no longer an essential subject unless such additional values can be shown. Indeed, many of the proselytisers for electronic technology in education argue precisely this point – that information technology aids learning. This view is summed up by Dickinson (2002) thus:

[IT] is now an essential skill for students of every age. In addition to accelerating learning, it offers opportunities to explore and expand intelligence, quick positive feedback, access to unlimited sources of information, international communication, distance learning […].

Some even argue that technology in education has become a necessity because “it is increasingly difficult for traditional teaching techniques to capture and hold the interest of a child who has been reared on video games and MTV” (Tsantis, 2002). From this point of view, old skills are simply being replaced by new skills, old dependencies by new ones.

The internet and our Blackberry are our memory. We no longer need to remember. This is seen most starkly in the contemporary university problem of internet plagiarism. We might say that the student may know where to get the answers on the internet, even better ones that we ourselves can produce, but only has the appearance of knowledge.

What worries us is that our students have not gained knowledge or wisdom but simply know “where to find the right things on the internet”. The sophists of Socrates time may well have used “book knowledge” to impress rather than to gain wisdom. The fear is our students are seduced by the use of the internet merely to pass rather than morally and intellectually develop. This we think gets to the bottom of the problem of eDependency, that the technology, or rather the social ecology of technology, changes us and that change is not towards wisdom.

Bauman (2005, p. 304) sees this forgetting, and the ability to scan and cut and paste information as a modern “virtue”:

Swift and thorough forgetting of outdated information and aged habits can be as much or more important for success than the memorizing of past moves and building one's strategies on the hardened and lasting sediment of previous learning (Bauman, 2005, p. 304).

This is what is really meant by “life long learning” – remaining flexible. MacIntyre (2006) sees “flexibility” as being the new virtue of the self:

It exhibits for one thing a quality that in a compartmentalized society is presented as a virtue of the individual as such and not just of the individual in this-or-that-role, a virtue that is a newcomer to the catalogue of the virtues: adaptability, flexibility, knowing chameleonlike how to take on the colour of this or that social background (MacIntyre, 2006, pp. 200-1).
These comments underscore what Furedi (2009, p. 13) sees as the regrettable move towards “relevant” teaching where educators believe students cannot grasp big ideas and must be engaged with the novel, the immediate, and that which is directly relevant to the current environment. This in a complex world is seen as desirable; we need flexible, adaptable citizens (MacIntyre, 2002).

These are important moral issues about what it means to be human and how we wish to live and engage in our world. This might get closer to our unease about eDependency: to what extent and under what conditions does our electronic technology, our new skills and dependencies, bring understanding and build moral character?

MacIntyre (2006, pp. 200-1) suggests that to have moral character is to engage in the world to test and develop our moral reflections in discussions with others and to remain true and constant and to develop an integrated rather than a fragmented or segmented character. To what extent are we using technology in our culture to be “chameleonlike” and to use the screen to mediate between the world and ourselves? To what extent are we teaching our children this? How much are we changing? How much should we change? Are we, and can we be, in control? These appear to be the key questions underpinning our concerns with eDependency. These are important questions for our society, ones that require considered debate.

5 Conclusion and further research

In reflecting on society's relationship to technology and eDependency we have argued that IS as a discipline needs to take the mantle of King Thamus and critically examine not simply the effects of the technology alone but the social ecology of technology appropriation and the moral issues that ensue.

How then do we investigate this phenomenon? While we cannot offer a definitive answer to this question, we can suggest some approaches and areas of investigation that may prove fruitful. For instance, the discipline of sociology may be drawn on to inform the study of the social ecology of technology. The most persuasive and arguably predominant and interrelated themes in this regard concern reflective modernity, individualism and consumerism of which Beck (1992), Giddens (1991, 1994) and Bauman (2000) are leading commentators. Put simply, they and others argue that all “fixed fast and frozen relations” have indeed been swept away or dramatically and significantly weakened. This seemingly provides life and identity not as a preordained custom but one of choice. Who you are is not a given but a choice. The choice is clearly constrained and influenced by class, race, gender and autobiographical history. However, identity appears as a choice.

This leads to interesting questions of how, in this liquid modernity (Bauman, 2000), we use technology to seek pleasure, develop and choose our identities, engage with others, however vicariously, and solve their problems. It also involves examining questions of power over appropriation and how our social ecological “horizon of interest” is generated and contested.
As well as investigating the mainstream uses of IT we need also look to the shadowy world of the hackers, cyberpunks and electrohippies for new and revolutionary appropriations of technology. A particular area of our interest is what we call the use of the screen. Electronic screens are ubiquitous, from televisions screens, to computer screens to iPods and mobile phones. A screen is a visual display but it is also a separator, a Purdah-like barrier that permits a vicarious inclusion in a world seen or participated in through a screen. Our question is how is that screen used? Bauman (2000, p. 84) suggests that what is on the screen is “more real” than real and that “as seen on TV” carries great weight of religious authority as if the virtual world has been instantiated this once in the real.

Finally, investigating these phenomena may require different empirical methods – perhaps an ethnographic approach within relevant micro-ecologies. In this approach, the digital native would be encountered in their everyday life to identify just “what the natives think they are doing” (Geertz, 1979, p. 227) as they appropriate the electronic technology to seek happiness, confirm their identities, seek career advancement, stay cool, remain contactable and so on.

Pursuing these questions may mark a new era for the field of IS. It calls for a move from the self-imposed confines of the concerns of business and a move towards social and moral issues and their relationship to information technology[1]. It also marks a move in the discipline from a technophilia bias towards a “neo-Luddite” view, if we borrow the term for a Thamus like consideration of how technology will be appropriated, to whose benefit and how we will change it (Goldfinch, 2007, p. 922; Lyttinen and Robey, 1999, p. 95). The question of eDependency provides the opportunity for the rejuvenation of the discipline.

Notes

1. At the recent Australian Conference of Information Systems the keynote speaker Bob Galliers spoke of this problem. It was further highlighted in a plenary where it was told US and Australian PhDs in IS had been advised not to research the effects of information and financial Microsystems on the poor in India.
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Further Reading


About the authors

Dr Darryl Coulthard is Associate Head (curriculum) in the School of Information Systems, Deakin University, Australia. His research interests include critical and postmodern information systems, professional ethics in postmodern society and privacy, dataveillance and radical transparency. Darryl Coulthard is the corresponding author and can be contacted at: darryl.coulthard@deakin.edu.au

Dr Susan Keller is an academic from the School of Information Systems, Deakin University, Australia. Her research interests include social informatics, information system research approaches, and design science.