

Popular education and the digital citizen: a genealogical analysis

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Abstract

This paper historicises and problematises the concept of the digital citizen and how it is constructed in Sweden today. Specifically, it examines the role of popular education in such an entanglement. It makes use of a genealogical analysis to produce a critical ‘history of the present’ by mapping out the debates and controversies around the emergence of the digital citizen in the 1970s and 1980s, and following to its manifestations in contemporary debates. This article argues that free and voluntary adult education (popular education) is and has been fundamental in efforts to construe the digital citizen. A central argument of the paper is that popular education aiming for digital inclusion is not a 21st century phenomenon; it actually commenced in the 1970s. However, this digitisation of citizens has also changed focus dramatically since the 1970s. During the 1970s, computers and computerisation were described as disconcerting, and as requiring popular education in order to counter the risk of the technology “running wild”. In current discourses, digitalisation is constructed in a non-ideological and post-political way. These post-political tendencies of today can be referred to as a post-digital present where computers have become so ordinary, domesticized and ubiquitous in everyday life that they are thereby also beyond criticism.

Keywords: digitalisation; computerisation; adult education; popular education; genealogy; data politics; algorithmic politics

Introduction

Historically, new technology has been seen both as representing the promise of a brighter future, and as a source of worry and fear. Technologies such as the car, the radio, and television have in different times in history been described as inhabiting emancipating

and democratizing potentials (Winner, 1980) as well as presenting society with new kinds of accidents (Virilio, 2007). Computers are no exception.

Today, being a digital citizen has become a default mode of existence (Kaun & Schwarzenegger, 2014). New media usage is habitualised and omnipresent, making it almost inescapable in terms of everyday citizen activities. These changes have been described as demanding a new set of basic skills. No longer are literacy and numeracy skills enough in order to live life as full citizens; citizens now also need to develop digital skills¹ (European Commission, 2010; OECD, 2013). Problem-solving in digital environments was for example one of the so-called “basic skills” measured in OECD’s (OECD, 2013) recent survey of adults’ skills (PIAAC), and it was amongst other things concluded that:

Proficiency in information-processing skills is positively associated with many aspects of individual well-being, notably health, beliefs about one’s impact on the political process, trust in others, and participation in volunteer or associative activities (OECD, 2016, p. 18)

Digital competencies are in the above excerpt described as merging with participation in society and to be able to exercise active citizenship. However, these digital skills are not only spoken of as important to individual citizens; they are also addressed as a necessity for securing Europe’s future growth and prosperity in general. As argued in a recent EC paper on lifelong learning, digital skills are essential in order “to get Europe back on track” (European Commission, 2010, p. 3) or as argued by the Swedish government and the Swedish Association for local Authorities and Regions in their united plan for digitising the public sector, the digital should be seen as a default mode of representation in society (Ministry of Enterprise and Innovation, 2015). This line of argument is also common in descriptions of the so-called “refugee crisis”, where electricity and connectivity (especially through smartphones) are framed as being as essential to refugees as, for example, medicine and water (UNHCR, 2016).

The digital society thus demands a digital citizen, one who is both digitised in records and archives as well as embodying the digital skills needed in order to adapt to changes taking place in society. The overlap between digitisation and enactments of citizenship produces “digital inclusion” as normalized, desirable and non-political, thus also generating “digital exclusion” as marginalisation, and as something that adult education must change.

The above ways of speaking of digitalisation, digital skills and the citizen seem to suggest that the digital citizen holds a neutral and apolitical position. Current developments of digitalisation are construed as unavoidable, and the associated skills needed are not specified or questioned. In this article, we will argue that such ways of speaking are problematic, or even dangerous (Foucault, 1991a), as they suggest that digital exclusion is also an exclusion from society. By historicising the present way that digitalisation, digital skills and the digital citizen are spoken about in Sweden, we will illustrate how there are other possible ways to speak about these things. We will specifically direct our attention towards popular education, which in contemporary as well as historical times in Sweden, has been positioned as an important route by which adults can develop digital skills.

Popular education and digitalisation in Sweden

Popular education can be described as a mainstream activity in Swedish society that is also, to a large extent, state-integrated (Edquist, 2015; Laginder, Norvall, & Crowther, 2013). Throughout the 19th century popular education was dominated by social

movements, which during the beginning of the 20th century resulted in the emergence of study associations and the pedagogical format ‘study circles’. During the 1900s, popular education further established itself, partly through increased state sanctions and support. For a very long time, study circles and folk high schools were the predominant form of education for adults in Sweden. Even though popular education since 1944 has been based on the idea of being “free and voluntary” (Government Bill, 1990/91:82), in practice, popular education has been highly dependent on state support. As such, the Swedish government has also, at different times, required popular education to perform specific educational tasks, which also shaped the site and content of popular educational institutions (Edquist, 2015). The educational task of interest for this paper is popular educational efforts regarding computerisation. The Swedish public debate on computerisation started during the 1960s and intensified in the 1970s (Ilshammar, 2007). In the 1970s computers were depicted as a ‘dangerous computer force’ and the suggested solution to deal with this threat was often popular education. Voluntary, extensive, state-supported information and education was seen as the most effective way to educate every citizen.

Sweden is a particularly interesting and accessible case when it comes to the interaction between citizens and digitalisation because of its long tradition of state interventions to increase adults’ computer skills. From an international point of view Sweden was a computerisation forerunner. Already in 1950 Sweden had built a world class computer using state funding (Lindkvist, 1984). During the 1960s, the Swedish state was the largest customer of computer equipment in Europe, and in 1998 the Swedish people owned more home computers per capita than any other country in the world. Also, in international comparisons the Swedish state has taken a very active role in computer-citizenship debates over the last 60 years or so. For example, during the 1970s Swedish “data politics” mobilised in such a way that early instantiations still have civil repercussions (Glimell, 1989). At present, according to PIAAC’s study of adults’ skills, Sweden comes out on top of all OECD countries as regards problem-solving in a digital environment (OECD, 2013). Currently, Sweden is also one of the countries with the highest percentage of Internet users (however, Sweden is also one of the countries in the aforementioned PIIAC study that shows a great inequality in skills between different groups). Time spent on the Internet is increasing every year, and currently Swedes devote more than a fifth of their waking hours to online activities (IIS, 2016). In Sweden, nine out of ten people own (at least) one computer and use the Internet daily. However, this also means that one in ten do not. Nationality, as well as age, class, gender, ethnicity, mother tongue and other ‘unifying signifiers’ (Lykke, 2010) determine who is, in fact, “digitally included”.

The aim of the article is to historicise and problematise the ways the digital citizen is co-constructed in Sweden today in relation to popular education, in order to open a space for further debate. In the next section we introduce our theorisation and empirical material, followed by our analysis, ending the article with a discussion.

Genealogy, empirical material and analysis

This paper draws on a genealogical approach (Foucault, 1983, 1991a, b, 1998) in order to historicise and problematise present ways that digitalisation, digital skills and digital citizens are spoken about. A genealogy questions the constant search for origins and beginnings or for truths about human nature or the world; it questions the search for essence and stability. The starting point is rather to destabilise and question the taken-for-

granted ways in which we think and go about doing things in the present day. A genealogy could thus be called a history of the present (Fejes, 2006; Popkewitz, Pereyra, & Franklin, 2001).

A genealogy acknowledges that histories are not objective and that the author cannot detach herself from the discourses of which she is part. Authors conducting genealogical analyses provide one possible story to tell about our present, which aims to illustrate how the present is not a logical or deterministic effect of the past. The present is rather an accidental construction composed of diverging elements with different historical trajectories. A genealogical approach could thus be described as a history of effects, which at the same time highlights complexity and contradiction. The focus of the genealogist is to trace the descent and emergence of the ideas that are taken for granted in the present so as to disrupt, question and destabilise the present (Foucault 1991a, b). The analytical focus is directed towards power relations. Here, power is not seen as something that a certain person has or wields over others. Power is rather something that exists everywhere, and something that is relational. Instead of asking the questions of where power is or where it comes from, a genealogist asks the question: How does power operate and with what effects? (Foucault, 1998).

In order to problematise the present ways that digitalisation, digital skills and the digital citizen are spoken about we have selected a range of documents that in different ways describe popular education efforts supported through state funds. For an analysis of the contemporary time, we have selected recent policy papers on digitalisation and popular education published by the government as well as the Swedish National Council of Adult Education (Andersson & Laginder, 2006; Andersson, Laginder, & Landström, 2007; Government Offices of Sweden, 2016; Ministry of Culture, 2015; Ministry of Enterprise and Innovation, 2015; Swedish Government, 2014; Swedish National Council of Adult Education, 2004, 2007, 2008, 2009, 2013, 2014a, 2014b, 2016). The latter is a non-profit association assigned (by the Swedish Parliament) to distribute government grants to study associations and folk high schools. In order to perspectivise the present time, we have further selected texts, film and audio that represent some of the earliest and largest projects addressing computerisation in Sweden:

Computers on our terms (Datorer på våra villkor), 1975 –1976 – Public Service Broadcast and textbook. The material consists of four radio shows broadcast in 1976 and a textbook from 1975. The book could be used independently of the radio shows. The titles of the shows are telling: The computer as a work mate; The good computer; Should we be scared of the computer?; and The computer in the future. (Björk & Saving, 1975; Radio Sweden, 1976)

Computer skills (Datoranvändning), 1978 – Textbook. The first and largest computer course ever delivered in Sweden. Created by distance education company Brevskolan and the Swedish Trade Union Confederation. One hundred thousand course participants. (Swedish Trade Union Confederation, 1978)

Computer Force in Society (Datakraften i Samhället), 1978 – Report. The first large-scale popular educational effort, including many different formats and collaborations between different actors, aiming to inform about, and create discussion around, computers in society. (Swedish Council for Planning and Co-ordination of Research, 1983; Trost, 1982)

The Electronic Horse (Den elektroniska hästen), 1979-1981 - Public Service broadcast and governmental report. One of the sub-projects supported by Computer Force in Society. The movie was shown in schools, in study circles and broadcast on Swedish national television. The somewhat awkward title of the movie is explained through an analogy with

the old American company Pony Express, which delivered mail via horses and their riders. The company only existed for one year (from 1860 to 1861), but during that period it was the fastest and most direct means of east-west communication in the USA (just before the telegraph was established). The movie furthers the analogy by stating that the telegraph was also a “horse of a kind”, carrying information on its back. (Seth & Svanberg, 1981)

A child for the future: a feature about the microcomputer – the atom bomb of the information age (Ett barn för framtiden: En feature om mikrodatorn - informationsteknikens ’atombomb’), 1979 – Public Service Broadcast and text material. This is a play, which was broadcast on national public service radio in 1979. It was conceived in collaboration between a Swedish professor in information theory and computer communication and a number of professional actors. The play was based on interviews with researchers as well as industry and business representatives. As such, it was described as a ‘docuplay’. It went on to win the Prix Futura, an annual European competition for radio shows. (Hellberg & Kristiansson, 1979)

Our analysis of these texts directs its attention towards the operation of power and its effects (Bacchi, 2009; Fejes, 2006; Foucault, 1983, 1991b). We do so by firstly focusing on what problems emerge, or rather, how certain problems are shaped in the material. Secondly, we focus on what solutions are suggested for the problems emerging. And thirdly, we identify the effects of power relations in terms of what subjectivity emerges in terms of who is the target of intervention. More specifically, during the analysis of the material, recurring patterns of problematisation have been identified, as well as breaks and disruptions. As such, the analysis is not presented in a strict linear and progressive storyline. Such a representation is necessary to reflect the complex and intertwined relationships that make up the history of digitalisation, digital skills and the digital citizen. In the following, we first introduce our analysis of the present time, followed by our historicisation.

Popular education and the digital citizen in the present time

Taking the point of departure in present day educational efforts, the following section will identify how the problems, solutions and targets related to the shaping of the digital citizen of today are described in the texts. Turning to current governmental guidelines for the Swedish National Council of Adult Education, it is stated that the council should make “special efforts to increase the digital inclusion of citizens”. In line with this, the Swedish National Council recently stated that:

The effects that digitisation has on society and citizens impacts the requirements for popular education now and in the future. [...] Digital inclusion is becoming an increasingly important prerequisite for the enactment of citizenship. By the same token, digital exclusion is becoming societal exclusion. (Swedish National Council of Adult Education, 2014)

The excerpt above shows how popular education is described as a central actor in the work to “include” all citizens in the digitised society. The quotation further illustrates how digital skills are seen as necessary not only to keep up with digitalisation, but in order to be included in society. Another example with similar ways of reasoning emerges in the governmental bill ‘Learn, grow, change’ where the Swedish National Council of Adult Education is given the specific assignment to bridge the “digital divide” (Government Bill, 2005/06). Furthermore, in ‘A roadmap for Popular Education’ which is a politically charged publication from the study associations and folk high schools, it is stated that: ‘The democratization of digitalisation is an assignment equivalent to teaching the

population to read and write' (Swedish National Council of Adult Education, 2013, p. 27). The significance of popular education is also stressed in a recent Swedish governmental report on the media, which explains how Sweden now is now in need of a new era of popular education. In the aforementioned report, citizens are referred to as 'netizens', because 'traditional and digital media, companies, organisations and media-citizens are connected in a new expanding ecosystem, where anyone and everyone can be media' (Ministry of Culture, 2015, p. 23).

The great importance assigned to the question of adults' digital skills and popular education as a way to promote societal inclusion was further confirmed by a number of so-called 'digital dialogues' intended to spur discussion and interest in a larger follow-up conference, organised by the Swedish National Council of Adult Education in 2014. A concluding report summarizing these dialogues and conferences was presented to the government in February 2015 (Swedish National Council of Adult Education, 2014b). Notably, this report is only the latest in a very long line of similar reports (Andersson & Laginder, 2006; Andersson et al., 2007; Swedish National Council of Adult Education, 2002, 2007, 2008, 2009, 2014a, 2014b). Similar reports were also published, as part of Swedish Government Official Reports suggesting that public education is a key actor for computer education initiatives (Swedish Ministry of Education, 1979; Swedish National Council of Adult Education, 2004). The concluding report on the aforementioned 'digital dialogues' describes two problems as predominantly important for popular education to address. Firstly, basic digital skills are compulsory requirements for a citizen of today (and thus their acquisition is an important mission for popular education). Secondly, that popular education must "keep up" with an increasingly digital society, and be an agency that is "contemporary". The report concludes that increased competency for teachers is a key solution to this problem (Swedish National Council of Adult Education, 2014b).

As illustrated, popular education has been seen as *particularly* suitable for projects related to digital inclusion. For example, the unique societal position and communal methodologies of popular education (e.g. in working for equality and democracy) have been identified as helping to counteract the risk of "isolated individuals in front of a machine" (Swedish National Council of Adult Education, 2002). As such, popular education has been seen as supporting discussion and enquiry as a different and/or complementary road to knowledge.

The problematisation mentioned in the texts from the present time is thus that contemporary society needs citizens who have digital skills that make it possible for them to manage life as citizens, and thus they will contribute to the further development of society. Popular education is positioned as an important solution that is expected to successfully target those who do not have digital skills, and help them to acquire such skills, and thus avoid the risk of being both digitally, as well as socially excluded. Digitalisation in itself, and the need for digital skills are not disputed nor are they problematised. Rather, the need for these skills is taken for granted.

However, even though all citizens are seen as needing digital skills, some groups are positioned as in risk of marginalisation. These are the elderly, non-natives (especially if they are born outside of Europe and have little or no education), the disabled and the homeless (which are seen as excluded groups that run the risk of being offline and thus 'off-citizens') (Swedish National Council of Adult Education, 2008, 2016). Popular education is here, in relation to digitalisation, especially given the task of directing its activities towards these groups.

Taking the point of departure in such a way of shaping the present time, we now turn to texts from the 70s and 80s in order to identify what problems, solutions, and targets for

these solutions concerning digitalisation, digital skills and the digital citizen are put forward in these texts.

What's the problem? From lurking threat to harnessed ubiquity

During the 1970s many heated public debates regarding computer technology took place in Sweden. As previously mentioned, several stakeholders became sceptical of the potential benefits of the computer. For many, the computer had become a symbol of a large-scale, technologically determined society and its impending risks. The debates during this period were mainly focused on issues such as personal integrity, the hegemony of IBM, surveillance, and questions of work pursuits (Lundin, 2015; Ministry of Industry, 1973).

Doubt and anxiety about the role of the human in these “machine cultures” challenged the previous enthusiastic and confident takes on the future (Swedish Ministry of Education, 1979). Debates on work pursuits mainly revolved around whether the computer could be the cause of mass unemployment, but also what the quality of future work would be like. In the mid-1970s, the computer policy expert at the Confederation of Swedish Trade Unions described a fear for a future where everything would be automated and all jobs would be streamlined, and then a future where only very few jobs were left, with very little real content (Emanuel, 2009). Here it could also be mentioned that in the UK, the British Trade Union ASTMS had demanded a redistribution of the income and wealth coming from computerisation. Inspired by the ASTMS report (on the potential rise of unemployment), The Swedish Computer and Electronics Committee (1981, p. 15), wrote that ‘we should seriously consider the possibility to give everyone a minimum income’ as a solution to this problem. From a collaborative effort between unions and work-life researchers a suggestion came that unions should be able to veto any application of computer technology until a data policy of their own had been worked out (Glimell, 1989, p. 33). Similar reasoning is also visible in the material for the course ‘Computer skills’ where it is stressed that unions must be given the right to approve any new computerised systems planned for certain workplaces. Furthermore, unions should be able to test systems before they are permanently implemented, and the introduction of computers should be performed at such a pace that any consequences can be safely surveyed. If the systems and their consequences are not deemed positive, an option to reverse to previous practices should be available. The course ‘Computers on our terms’ from 1975, highlights that many unions in Sweden stress that the entire development path, should, in fact, be reversed, before the situation becomes too difficult to handle (Björk & Saving, 1975).

Interestingly, tensions between yea-sayers and nay-sayers disappeared in the transit into the 1980s. By then, the development was instead described as unstoppable and that we needed to harness this inevitable progress before it became too inhumane. We can thus here identify a shift. From computerisation described as stoppable, to computerisation being constructed as inevitable (Seth & Svanberg, 1981)

The idea of the inevitability of computerisation is illustrated in the so-called docuplay entitled ‘A child for the future: a feature about the microcomputer – the atom bomb of the information age’ which was broadcast on Swedish public service radio in 1979. This docuplay starts with a quote from one of several interviewed specialists: ‘We no longer ask what use we should put computers to, but what happened!?! Technological progress outpaced our wildest fantasises’ (Hellberg & Kristiansson, 1979, p. 1). The setting of the docuplay is a future where computer technology has had an impact on most jobs. It goes on to debate how we (humans) should think about and relate to a future where

computers even program themselves, independent of human input and limitations. In a perhaps deliberately provocative spirit, computers are proposed to become self-sustaining and perhaps even fitted with so-called ‘dummy knobs’ (buttons without any function) which are used to evaluate human workers by first, simply counting the number of pressings, and secondly, by also producing a certain experience of meaningfulness for the human worker. Another risk that is discussed is whether people in the future will become even lonelier by having to resort to socialising with computers rather than other human beings. In the docuplay, the computer is described as inevitable, both in the sense of technological determinism, but also in a more societal way, as inescapable for citizens in their everyday lives. Everything is described to be computerised: work, democracy, relationships, education, and even parts of the human body, but this will also enable increased surveillance as depicted below (Hellberg & Kristiansson, 1979, p. 25):

Narrator: You see, these systems of control increase the possibilities for rapidly finding people with “deviant” behaviours. People who don’t perform, or people who have taken on some odd habit or strangeness that needs to be corrected.

The child: But, hey? If I give you something... or lend it to you – can I have it back later on, if I want to?

Narrator: Yes, of course.

The child: If I give you a secret? Can I have that back too?

Narrator: No...

The child: But, then you can’t really give me back any information that I provide to a database either?

The risk of inhumanity associated with computers is further developed in the docuplay when it warns its audience that Taylorism is on the rise, and will be even more empowered by computers. Similar reasoning emerges in the textbook ‘Computer skills’, where it is emphasised that Taylorism builds on a negative view of humans, where people are not intrinsically motivated to work or take responsibility for anything unless they get monetary compensation. Competition and control become central functions, and computers will enhance such governance of work places, not least because with a continuous increase of efficiency in computers, an increased efficiency in individual workers will be equally expected. Workers will have to acclimatize to this efficiency and those who cannot cope will be separated and left behind.

In the mid-1970s, most people had little contact with actual computers. The textbook from the project ‘Computers in our terms’ states that there were approximately 800 general purpose computers in Sweden, most which were used for administrative purposes. As such, the discussions about the risks of computerisation were, in many ways, about the *imagined future* risk. For example, the potential of stored information about an individual was referred to as a ‘data shadow’. In the future, this data shadow would be what determined any decisions and valuations about the real human being. The metaphor was also used to describe how the data used to represent a person would always be a more meagre and defective version of the living being—creating a tension between the machine and the human as two distinct opposites (rather than as merging entities in the eyes of governing systems).

Likewise, discourses of today (in response to the ubiquity of digital technologies) are still about *imagined* future affects and dangers. An important shift of today’s

discourses on computerisation can be described as a shift from fear of the affordances of computers to discourses focused on a utopian view about endless possibility. While there are still critical voices being raised, the digital imperative has changed from expressed fears (at least by political actors) to warnings that are more about the potential dangers of not digitising everyone and everything fast enough.

Summing up the discussions of the 1970s: both on-going and imagined effects of computerisation were seen as worrying because of the power computers hold in terms of potential societal change. The concept of a computer revolution was a recurring one, and it was seen as bringing about thorough and uncontrollable changes. Popular education was construed as an important vaccine against these potential plagues that could haunt the future, which will be further elaborated upon in the following section.

What is the solution? From left behind to left outside

As previously illustrated, today, popular education is shaped as a solution to the digital divide providing opportunities for citizens to develop the specific digital skills needed in order to be included in society. Such skills are not specified or problematised, and are construed as needed in order for citizens to avoid being left outside society. In the 1970s, popular education was also shaped as a solution to digitalisation (computerisation), but it was thought that critical knowledge should be developed in order for citizens to be able to question and criticise computerisation, and in doing so, handle the risks identified. Or rather, the goals for popular education were to spur discussions, reduce computer anxiety, create opportunities for public assessment of new technologies, and thus create a desirable future for one and all (instead of a ruling few). However, there was a shift in the early 1980s (as mentioned in the previous section) from constructing computerisation as a threat to constructing it as inevitable. Such a shift could also be spoken of as an idea of “keeping up with the development” to avoid the risk of “being overrun and left behind”. Popular education thus became a tool for people to keep up with developments. The main reason for educating citizens at this time can be defined as a techno-determinist one: ‘We cannot stop the development’ (Laginder, 1989, p. 11). Such a techno-determinist idea is depicted in the movie ‘The electronic horse’, where, even though the narrative is structured as a debate between two people, debate as a communicative tool is also presented as almost pointless. One of the debaters, the so-called technocrat – dressed in a white lab coat – expresses himself very positively about computerisation. The other, the so-called humanist, is portrayed by a female actor dressed in everyday clothes.

The technocrat: Don’t think this is a democratic vote about computerisation – it is already too late. It would be the same as voting ‘yes’ or ‘no’ to electricity. Without the power of computers this society will collapse into chaos. Chaos! This (computing) is precisely what is going to save us from the energy crisis and the crisis of the industry.

The humanist: The industry? The industry?! That’s all you think about! I don’t give a damn about the industry. I care about people. The social price of the computerisation of society can be much higher than you can imagine, you conservative inventor! With the help of computers we are creating an information society, an electronic society, where the intrusions in our privacy and social behaviours will be severe!

The technocrat: Technology in itself is not evil. The computer is nothing but an electronic horse.

The humanist: And the horse is running amok! Is it not through information technology that a handful of multinational companies have seized power over the entire world? And turned

politicians into a bunch of powerless puppets with no possibilities to influence the development?

The technocrat: No, no, no, there is no conspiracy. That idea is just a crazy theory created by fevered Marxist brains. Not even IBM controls the development of computers. This development is not controlled at all. Are you listening? Not controlled! Do you know what will happen if you are allowed to keep up with this soft-humanist mumbo jumbo for a few more years? We will be overrun on two fronts! From above and from below. From above by a repressive big brother society, and from below by today's teenagers who have a non-prejudiced approach to technologies.

The two antagonists do not reach consensus. Instead the movie concludes with a scene of a child in front of a computer. The narrator declares that the best solution would be if we could “use the good bits and avoid the bad bits”. Superimposed over the images of the child in front of the computer is a text which declares that computerisation is one of the most important societal questions of the 1980s. It is also stressed that even though computerisation is probably inevitable, it is also humans who decide the rules computers follow, who programs them, and who submits the data computers are supposed to compute.

The above example illustrates how the discussions on computerisation in the early 1980s can be described as “a train leaving a station”. There was the option to ‘jump on board’ or to be ‘left behind’. Today the descriptions are different – citizens are included or excluded. You are not left behind, but left outside. When digital literacy today is described as a precondition for citizenship (in policies and guidelines), this represents a particular kind of problematisation i.e. the problematisation thus shifts from digital exclusion to societal exclusion. Thus, when digital inclusion is conceptualized as a precondition for citizenship, the person not digitally included is concurrently also excluded from citizenship (and maybe even excluded from society in general)

Who is targeted for this solution? From everyone to the marginalised

Today, popular education in terms of developing digital skills is directed at those who are categorised and deemed as at risk of being excluded, i.e. those without the digital skills identified as important to live life as citizen. So even though “all” citizens are seen as needing certain digital skills, popular education intervention is directed at the few—those on the outside (cf. Fejes, 2006).

Turning to the texts from the 1970s and 1980s, the target of popular education intervention is everyone. The entire population is in need of knowledge that can be used to criticise and debate the computerisation of society, and in so doing, potentially take charge of more humane developments. The governmental efforts to reach the entire population and educate adults in computer skills made use of a range of popular education practices including study associations, libraries, and folk high schools, as well as unions and the Swedish education broadcasting company, often in collaboration with each other. Study associations, sometimes cooperating with unions, provided education in computer skills, both during working hours as well as during free time. As such, popular education became a key actor in computer education. Popular education was also described as a general remedy to an uncontrolled debate coloured by emotion and pure speculation rather than actual knowledge; thus popular education would work to generate a controlled and sensible debate on the imagined future societal impact of computers (Emanuel, 2009).

In other words, educational efforts focused on the entire body of citizens in mobilising a readiness for the future (Björk & Saving, 1975; Swedish Trade Union Confederation, 1978). Educating everyone about the possible societal consequences of

computers and thereby making citizens more equipped for an informed debate about the computer can be described as the main solution to the imagined future risk of computers. Thus, a debate between different stakeholders was described as an effective way to shape the systems of the future. In the course ‘Computers on our terms’ debate is presented as important because it asks us ‘what do we *want* to do with computers, instead of just doing everything we *can* do’ (Björk & Saving, 1975, p. 7). In the course this was described in the following way:

So far, our possibilities to influence the computer revolution have been next to none. We have been forced to adjust our everyday lives to a technology which is being controlled by powerful economic interests. It is only during the most recent years that computers have started to worry politicians and unions. Today, more and more of us are asking the important questions: Who controls whom? Why? How can we exercise our influence on the development? The only way towards more influence (outside of experts) is wider knowledge about computerisation. The purpose of ‘Computers on our terms’ is precisely this: to give a broad orientation about computer society.” (Björk & Saving, 1975, foreword)

Popular education was seen as the appropriate broad channel through which this kind of education was best delivered, mainly due to its foreseen capacity to develop a democratic approach towards computers in society. That is, if there is a foundation of democracy and solidarity amongst citizens, the worrying side effects of computing could be turned around to work for citizens and for positive societal development. The ambition that all citizens should take part in this assessment of the new technology would counter the risk of the technology “running wild”. Thus, popular education was regarded as the main means to reach this end.

What the above analysis suggests is that there has been a shift in focus. Popular education in relation to computerisation was in the 1970s and early 1980s directed at everyone, as this was construed as essential in order to control change and use the computer in a humane way. Today, the focus of popular education in relation to digitalisation is directed at those who are deemed to be at risk of exclusion, such as the elderly, migrants etc.

Discussion

This article has shown how computerisation and citizenship have converged and historically shifted from a “fear of computer force” to digital inclusion. Remarkably, and regardless of whether it is hope or fear that dominates the discourse, popular education has been put forward as a solution to the identified problems. Thus this paper shows how government action, in the form of broad information campaigns and popular education directed at citizens, is an important but often neglected aspect of the computerisation of society, both historically and today. Furthermore, the relationship between problems and solutions has the effect of shaping not only the types of educational efforts that are already and can be further realized, but also, by extension, which citizens are and will be construed as appropriate targets for education.

During the 1970s, computers and computerisation were described as disconcerting, and as requiring popular education in order to be controlled. Today computers are described as a “harnessed ubiquity” that still positions popular education as important, but in a different way. That is, in the 1970s you, as a citizen needed to learn about computers in order to keep up with and influence future development; today, your citizenship is defined by your digital literacy because you, as a citizen, are always already

digital. The previous debate about citizens and their ‘data shadows’ has faded; today, citizens and their data shadows are depicted, and probably often experienced, as converging into one. In current times there is a very limited debate about how authorities are constantly seeking new ways, and using different algorithms, to automate workflow or to monitor new aspects of our lives; or how novel digital archives allow (or limit) our access to our own information and memories (which are subsequently packaged and resold to anyone interested). Historical cases show that such societal debates were more vibrant and emphasised in the past and clearly included popular education as an important part of the solution.

Today, the governing forces, and thus also popular education, instead have to work to *re-include* citizens in a society that they were already part of (but which, through the unmitigated computerisation of society, they were gradually excluded from). Digitalisation thus becomes an educational (techno)fix that cures this exclusion—a pedagogical regime that takes lifelong learning as the governing ideal. When digital exclusion is constructed as a problem for citizenship exclusion, the solution becomes “computer skills”. This particular problematisation obscures how digital inclusion also results in techno-economical structures of exploitation, surveillance, and control. Today, governments are quick to adopt digital “solutions”, but such solutions are also presented on a silver platter by an eager industry (Dijstelbloem & Broeders, 2015). For example, at present, more than half of the requests handled by the Swedish Social Insurance Agency are completely algorithmically automated (Andréasson, 2015). Today, the digital citizen is subject to mundane online data leakage (for example location, frequency of visit, or browser type), which are then used as proxies for individual control and observation (Burell, 2016; Deville & Velden, 2016; Skeggs & Yuill, 2016). Such a world of algorithmic culture opens up entirely new possibilities for surveillance, control and circulation of capital, thus constituting a remote politics (Latour, 2005), which is also central to the structure of contemporary imperialism (Fuchs, 2016). A prerequisite for this situation is of course that each and every citizen becomes digitally included. Thus, the non-user of computers is no longer described as left behind in the technological development, but as “outside society”. The main reasons for those who do not have, or do not use, computers are described as displaying either indifference or unwillingness towards digital technologies. Therefore, the solution of today is to target *the will* of the digitally excluded, in order for them to, in fact, *desire* to be digital(ly included). It is *their will* that is in focus for educational efforts and the enabling of the future digitised society.

In current (utopian) discourses, digitalisation is constructed as a “the future has arrived” moment in history, and thereby in non-ideological and post-political ways. The political formation of the citizen as digital is made invisible by the choice of words that point to an inevitable technology development. Digitisation is thus constructed as a society-changing advanced process that is time-bound, rather than tied to a place—devoid of any capitalist, political and educational intervention and interest. The hopes of digitisation are disconnected from the material relations of production i.e. that digitisation takes place not only in a historical ‘now’, but also in a geopolitical ‘here’. This further obscures the fact that this ‘here’ is made possible by placing both production and waste elsewhere, and thus placing risks ‘there’ and profits ‘here’. Worries about how computer technologies would increase power asymmetries and control were heavily debated in the studied historical material. Today's discourses about digitalisation are better described using Margaret Thatcher's favourite slogan—There Is No Alternative.

Today computer education in Sweden is not targeting the citizenry at large. The vast majority of adults are always already digital, and educational efforts are instead directed at the few—those on the outside. The use of computers is not constructed as a privilege

but as something mundane and normalized. As various electronic artefacts become more intuitive, cheaper and perhaps even invisible, access to the Internet is no longer a privilege. Instead, self-chosen *interruptions of connectivity* are things that only some can afford to enjoy. For examples, which students in which kinds of education are forced to use a certain app on their e-readers, and which ones are free to be classic liberal arts and crafts students? Who is forced to be constantly monitored via digital technologies (Bodén, 2016) and who can start a “media diet”? If one cannot afford to buy expensive software licenses, one can depend on streaming (and monitored) services to accomplish one’s school work. Swedish authorities such as the Employment Service or the Social Insurance office often require extensive reporting via digital technologies. Another example of coercion of connectivity are that elderly demented people are now equipped with GPS devices and that attempts to replace home care with digital communication is seen aiming towards efficiency. Consequently, a relevant question today is what groups of citizens are targeted in digital skills upgrade campaigns, but perhaps even more important, *which citizens are not*? Which bodies are seen as always already “tech-savvy” digital citizens who are not targeted in educational efforts but who are supposed to consume (and continuously update) the required artefacts in order to be digitally included.

The analysis in this study shows that digitisation (across different time periods) is often described as an autonomous technological development whose origins and consequences are out of our hands. However, there are, of course, a variety of policy documents that co-construct the progress of digitisation. This article has shown how some of these policies have focused on *certain* problems and thereby also focus on *some* solutions as particularly important. These problem representations make some options visible (as well as viable) and hide others. By showing how digitisation is a methodical and political form of control (which is also cheered on by an eager industry) the analysis aims to open up to new possibilities to problematise the common assumptions about the digital imperative and how it could be different. Digitisation, and the control it implements, is both material and discursive in that it has a close relationship with the specific technologies of its time. Digitisation is also a matter of how to plan for a potential future. One can say that, in a way, we not only live with the technologies of today (and yesterday), but also to a large extent with imagined future technologies and their foreseen effects. The current post-political tendencies (as expressed by the full acceptance the digital imperative) can be referred to as part of a post-digital present where computers have become so ordinary, domesticized and ubiquitous in everyday life that they are thereby also beyond criticism.

Acknowledgements

The authors wish to thank the editors of this special issue and the anonymous reviewers for valuable and constructive comments. We are also very grateful to *Stockholms Arbetareinstitutetsförening* for providing financial support for this project. Finally, our most sincere gratitude to Daphne Arbouz and Ann-Marie Laginder, for their helpful generosity and encouraging comments.

Notes

¹ We use the terms digital literacy/competency/skill as conceptualizations of the knowledge citizens are supposed to take on in order to bridge the digital divide and become digitally included. The exhortation and proposed solution that everything (and everyone) should become digital can be referred to as a digital

imperative. Detailed descriptions of the digital or what exact skills are needed to be(come) digitally included are rarely presented.

References

- Andersson, E., & Laginder, A.-M. (2006). *Deltagarröster om folkbildning på distans – motiv, betydelser och datoranvändning*. Stockholm: Folkbildningsrådet/LearnIT.
- Andersson, E., Laginder, A.-M., & Landström, I. (2007). *Lärande, IKT och samhällsomvandling. Två rapporter om folkbildning på distans*. Stockholm Folkbildningsrådet/LearnIT.
- Andréasson, E. (2015). *Digitalisering i den offentliga förvaltningen: IT, värden och legitimitet*. (Ph.D Theses), Linköping University, Linköping. Retrieved from <http://liu.diva-portal.org/smash/get/diva2:859892/FULLTEXT01.pdf> (659)
- Bacchi, C. (2009). *Analysing policy: what's the problem represented to be?* Frenchs Forest, N.S.W: Pearson
- Björk, L.-E., & Saving, J. (1975). *Datorer - på våra villkor*. Malmö: Liber Läromedel.
- Bodén, L. (2016). Dexter time: the space, time, and matterings of school absence registration. *Discourse: Studies in the Cultural Politics of Education*, 37(2), 245-255.
doi:<http://dx.doi.org/10.1080/01596306.2015.1010073>
- Burell, J. (2016). How the machine 'thinks': Understanding opacity in machine learning algorithms. *Big Data & Society*, January-June, 1-12.
- Deville, J., & Velden, L. v. d. (2016). Seeing the invisible algorithm: the practical politics of tracking the credit trackers. In L. Amoore & V. Piotukh (Eds.), *Algorithmic Life: Calculative devices in the age of big data*. London & New York: Routledge.
- Dijstelbloem, H., & Broeders, D. (2015). Border surveillance, mobility management and the shaping of non-publics in Europe. *European Journal of Social Theory*, 18(1), 21-38.
- Edquist, S. (2015). Dermacating Popular Education with Government Subsidies: Sweden 1911-1991. *Nordic Journal of Educational History*, 2(1).
- Emanuel, M. (Ed.) (2009). *Folkbildning kring datorn 1978–85: Transkript av ett vittnesseminarium vid Tekniska museet i Stockholm den 9 oktober 2008*: Stockholm.
- European Commission. (2010). *A Digital Agenda for Europe*. Retrieved from Brussels: <http://eur-lex.europa.eu/legal-content/SV/TXT/?uri=URISERV%3Aasi0016>
- Fejes, A. (2006). The Planetspeak Discourse of Lifelong Learning in Sweden: What is an Educable Adult? *Journal of Education Policy*, 21(6), 697-716.
- Foucault, M. (1983). On the genealogy of ethics: an overview of work in progress. In H. L. Dreyfus & P. Rabinow (Eds.), *Michel Foucault: Beyond Structuralism and Hermeneutics*. Chicago: The University of Chicago Press.
- Foucault, M. (1991a). Polemics, Politics and Problematizations. In P. Rabinow (Ed.), *The Foucault Reader. An Introduction to Foucault's Thought*. London & New York
- Foucault, M. (1991b). Questions of method. In G. Burchell, C. Gordon, & P. Miller (Eds.), *The Foucault Effect: Studies in Governmentality*. Chicago: The University of Chicago Press.
- Foucault, M. (1998). *The Will to Knowledge: The History of Sexuality: 1*. London: Penguin Books.
- Fuchs, C. (2016). Digital Labor and Imperialism. *Monthly Review*, 67(8), 14.
- Glimell, H. (1989). *Återerövra datapolitiken!* Retrieved from Linköping:
- Government Bill. (1990/91:82). *Om folkbildning*. Stockholm: Regeringen.
- Government Offices of Sweden. (2016). Peter Erksson Minister for Housing and Digital Development. Retrieved from <http://www.government.se/government-of-sweden/ministry-of-enterprise-and-innovation/peter-eriksson/>
- Hellberg, T., & Kristiansson, L. (Writers). (1979). *A child for the future: a feature about the microcomputer – the atom bomb of the information age*: ATRs Förlag.
- IIS. (2016). *Svenskarna och internet 2016 Undersökning om svenskarnas internetvanor* Retrieved from iis.se:
- Ilshammar, L. (2007). When Computers Became Dangerous: The Swedish Computer Discourse of the 1960s. *HUMAN IT*, 9(1).
- Kaun, A., & Schwarzenegger, C. (2014). "No media, less life?" Online disconnection in mediatized worlds. *First Monday*, 19(11).
- Laginder, A.-M. (1989). *Framtidsbilder i offentligt utredande. Teknik, utbildning och samhällsutveckling*. (Doctorate), Linköping UNiversity Linköping. (42)
- Laginder, A.-M., Norvall, H., & Crowther, J. (2013). Introduction. In A.-M. Laginder, H. Norvall, & J. Crowther (Eds.), *Popular Education, Power and Democracy* Leicester The National Institute of Adult Continuing Education.

- Latour, B. (2005). *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford: Oxford University Press.
- Lindkvist, K. (1984). *Datateknik och politik. Datapolitiken i Sverige 1945-1982*.
- Lundin, P. (2015). *Computers and the Welfare: The Swedish Debate on the Politics of Computerization in the 1970s and the 1980s*. Paper presented at the History of Nordic Computing 4: Fourth IFIP WG 9.7 Conference, HiNC 4. <http://publications.lib.chalmers.se/publication/217288>
- Lykke, N. (2010). *Feminist Studies. A Guide to Intersectional Theory, Methodology and Writing*. London: Routledge.
- Ministry of Culture. (2015). SOU 2015:94. Medieborgarna & medierna. En digital värld av rättigheter, skyldigheter - möjligheter och ansvar. *Delbetänkande av Medieutredningen*. Retrieved from <http://www.regeringen.se/4ab02f/contentassets/aca20d317683426797fc15c0056004f3/medieborgarna--medierna.-en-digital-varld-av-rattigheter-skyldigheter--mojligheter-och-ansvar-sou-201594>
- Ministry of Enterprise and Innovation. (2015). Nu digitaliserar vi det offentliga Sverige [Press release]. Retrieved from <http://www.regeringen.se/pressmeddelanden/2015/10/nu-digitaliserar-vi-det-offentliga-sverige/>
- Ministry of Industry. (1973). *SOU 1973:6. Data och näringspolitik*. Stockholm: Dataindustriutredningen.
- OECD. (2013). OECD Skills Outlook 2013: First Results from the Survey of Adult Skills. Retrieved from http://www.oecd-ilibrary.org/education/oecd-skills-outlook-2013_9789264204256-en
- OECD. (2016). *Education at a Glance 2016: OECD Indicators*. Retrieved from OECD Publishing: http://www.oecd.org/skills/piaac/Country_note_-_Sweden.pdf
- Popkewitz, T. S., Pereyra, M. A., & Franklin, B. M. (2001). History and the problem of knowledge, and the new cultural history of schooling. In T. S. Popkewitz, M. A. Pereyra, & F. B.M (Eds.), *Cultural History and Education: Critical essays on Knowledge and Schooling* (pp. 3-42). New York: Routledge.
- Radio Sweden (Producer). (1976, May 2016). Computers on our terms [Datorer på våra villkor]. [Radio Broadcast] Retrieved from <http://sverigesradio.se/sida/artikel.aspx?programid=1602&artikel=3243474>
- Seth, P., & Svanberg, L. (Writers). (1981). The Electronic Horse [Den elektroniska hästen]. Stockholm: Filmcentrum.
- Skeggs, B., & Yuill, S. (2016). Capital experimentation with person/a formation: how Facebook's monetization refigures the relationship between property, personhood and protest. *INFORMATION, COMMUNICATION & SOCIETY*, 19(3), 380-396.
- Swedish Council for Planning and Co-ordination of Research. (1983). Computer Force in Society [Datakraften i samhället: en slutmening om ett pionärprojekt]. In T. Engström (Ed.). Stockholm: Forskningsrådsnämnden (FRN).
- Swedish Government. (2014). Målet för it-politiken. Retrieved from <http://www.regeringen.se/sb/d/2373>
- Swedish Ministry of Education. (1979). *SOU 1979:85. Folkbildning inför 80-talet*. Stockholm: Utbildningsdepartementet.
- Swedish National Council of Adult Education. (2002). *IT-stött lärande i folkbildningen - En utvärdering av utbildningssatsningar 1999-2001* Retrieved from Stockholm: <http://www.folkbildningsradet.se/globalassets/rapporter/nationell-utvardering/it.pdf>
- Swedish National Council of Adult Education. (2004). *SOU 2004:8. Folkbildning och lärande med IKT-stöd - En antologi om flexibelt lärande i folkhögskolor och studieförbund*. Stockholm: Delbetänkande av utredningen för statens utvärdering av folkbildningen.
- Swedish National Council of Adult Education. (2007). *Folkbildningens IT-mönster - En uppföljning av tidigare kartläggning*. Retrieved from <http://www.folkbildningsradet.se/globalassets/rapporter/nationell-utvardering/folkbildningens-it-monster2007.pdf>
- Swedish National Council of Adult Education. (2008). *Demokrati och digital delaktighet. Delrapport 2007*. Retrieved from Stockholm: <http://www.folkbildningsradet.se/globalassets/rapporter/regeringen/2008/demokrati-o-digital-delaktighet080222.pdf?epieditmode=true>
- Swedish National Council of Adult Education. (2009). *Demokrati och digital delaktighet. Slutrapport 2008*. Retrieved from Stockholm: <http://www.folkbildningsradet.se/globalassets/rapporter/regeringen/2009/rpp-digklyft-feb09.pdf?epieditmode=true>
- Swedish National Council of Adult Education. (2013). Folkbildningens vägval och vilja.
- Swedish National Council of Adult Education. (2014a). *Digital delaktighet och flexibelt lärande i folkbildningen 2014*. Retrieved from Stockholm:

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<http://www.folkbildningsradet.se/globalassets/rapporter/regeringen/2015/regeringsrapport-2015-digital-delaktighet.pdf?epieditmode=true>

Swedish National Council of Adult Education. (2014b). *Rådslag 2014 om digital utveckling i folkbildningen. Resultat och konsekvenser*. Retrieved from <http://www.folkbildningsradet.se/globalassets/rapporter/ovriga-rapporter/resultat-konsekvenser-radslag-2014.pdf?epieditmode=true>

Swedish National Council of Adult Education. (2016). *Folkbildningens frihet och värde*. Retrieved from Stockholm:

Swedish Trade Union Confederation. (1978). *Computer Skills [Datoranvändning]*. Stockholm: Landsorganisationen i Sverige, .

Trost, J. (1982). *Computer Force in Society [Datakraften i samhället: en utvärdering]*. Uppsala: Univ.

UNHCR. (2016). *Connecting Refugees. How Internet and Mobile Connectivity can Improve Refugee Well-Being and Transform Humanitarian Action*. Retrieved from Geneva:

<http://www.unhcr.org/publications/operations/5770d43c4/connecting-refugees.html?query=refugees%20phones%20wifi>

Virilio, P. (2007). *The Original Accident*. Cambridge: Polity Press.

Winner, L. (1980). Do Artifacts Have Politics? *Daedalus*, 109(1), 121-136.