Biometric surveillance in Britain's schools

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An essay about fingerprinting children in schools

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Introduction

The use of biometric technology in schools is increasing. It seems to have begun to be introduced in 2000. The main uses are fingerprint identification systems for library systems, registration and paying for lunch. One school, in Cambridgeshire, has recently introduced a face-scanning system for registration.

The fingerprint systems work essentially like this; a child's fingerprint is recorded into the system along with some other identifying feature, such as their name or exam number. The finger-print is digitised (represented as a number) and this number is encrypted in some way. This value is stored in the machine. Subsequently a child identifies himself by placing his finger on a pad; this is scanned, digitised and encrypted in the same way that the original print was. The system then matches the scan with its database of scans and thus identifies the child. Once identified the system can then be used in various ways: to link a book taken out of a library with a particular child, to deduct money from a child's lunch account, to record the times a child has entered and left the building or class, and so on.

Campaigners against these devices have raised concerns about the security in which this data is held. Manufacturers and schools (parroting what they are told by the manufacturers perhaps) insist that the systems are 'secure' because they use encryption. Supporters of the systems state that the systems do not store the 'actual fingerprints'. To some extent this is true. While the author is not privy to the manufacturer's commercial secrets it seems likely that the systems use relatively secure one-way encryption systems. That is; anyone breaking into a system would not be able to walk away with a bunch of fingerprints. Depending on the strength of the encryption used it might be possible to re-engineer an actual image of a fingerprint out of the machine. In practice though standard one-way encryption algorithms probably do provide a strong level of protection.

The spectre is raised of the police obtaining children's fingerprints by the back-door. As the systems are closed it is also unlikely that they will be linked directly into other databases the authorities have such as the ContactPoint database, which records basic information about all children in the UK and their contacts with the authorities, as has been suggested by some campaigners. However it does not seem impossible that these devices and the data they record could become part of police investigations. For example data from a school registration system could be used in court to disprove, or prove, an alibi. To this extent then campaigners are correct to link the proliferation of these devices into the wider growth of surveillance technologies in society.

We would suggest that privacy and data security concerns are being raised by campaigners because they instinctively feel these devices are wrong and perceive that this may be grounds to challenge the devices on. This attempt has failed as the Information Commissioner has ruled that the devices do not breach the Data Protection Act. Indeed; it is not even the case that schools must get the consent of children or their parents in the use of these devices. Consent is not a requirement in all cases of information gathering under the Act, which raises interesting questions about compulsory fingerprinting of reluctant children. (For example could a teacher lawfully use force on a child? Powers in the Education and Inspections Act 2006 Act allow teachers to use force to maintain good order.)

This leaves the real objection which is to do with the depersonalising of children in the interests of power, profit and efficiency, which is what we discuss in this essay.

But firstly; how widespread is the use of fingerprint technology in Britain's schools?

According to a report in the Daily Mail [1] in April 2007 just 39 out of 171 Local Education Authorities who replied to a Freedom Of Information request said that they did not allow this technology in their schools. (We would expect this number to have fallen since then). The majority of schools then *may* use these technologies.

In an article on the subject in March 2009 The Daily Mail estimates that 6,000 schools in the UK are using finger-printing systems. [2]

There are a number of companies active in this area promoting library registration systems, registration and tracking systems and cashless lunch queue management. A Freedom of Information request project by one campaign group, LeaveThemKidsAlone or LTKA, to LEAs indicates widespread usage with many LEAs responding that several of their schools use the technology. Other LEAs responded that the information was not held centrally by them. LTKA claims to have confirmed 400 schools using biometric technology but states that the figure is much higher; as in many cases where the LEAs have not provided information schools will be using them. Altogether LeaveThemKidsAlone believes that around 2 million school children are currently being fingerprinted in school. [3]

Whatever the exact figure it is important to realise that this is not a small phenomenon, a pilot, or something which is used in just a few schools with zany headmasters. Fingerprinting technology is in widespread use in schools in the United Kingdom.

The role of Becta and the government

Becta is, according to its web site, the "government agency leading the national drive to ensure the effective and innovative use of technology throughout learning." BECTA stands for 'British Educational Communications and Technology Agency '.

Becta is a body which is primed to promote the use of technology in schools. It is not, we should note, a body which is tasked with questioning the use of technology in schools. It is shamelessly about promoting technology.

There is an apparent belief in government that technology somehow magically benefits what is nowadays called 'learning' and was formerly called education. In December 2008 the government announced an extension to its programme to require children to use computers as learning tools. This is in place of the old-fashioned approach in which a teacher used a writing-board and children used exercise books and the class worked from textbooks. In a typical piece of New Labour cynicism the television interview in which Ed Balls, Secretary of State for Children, Schools and Families, announced this was conducted against the backdrop of a bookshelf, to reinforce the false message that the government still values basic reading and writing skills. (Mr Balls did not explicitly say that children would still read and write as much as they do now; rather he re-affirmed the government's commitment to these traditional skills in a general way. Of course; if children are required to use computers in place of exercise books in classes then there will de facto be less opportunities to practice writing skills. This was thus a typical piece of New Labour 'spin'; not exactly a lie but not true either).

Some of the new content which children will look at on these computers is being produced by the government friendly IT firm Capita in a large new contract.

The use of public money from the education budget on contracts with IT companies such as Capita or Research Machines, the supplier of computers to schools, stimulates this sector of the economy and generates wealth for the shareholders in these companies. Capita has won £2.6 billion of public contracts altogether (in all fields) since New Labour came to power in 1997. It is not a question of kick-backs; the loan from Capita chairman Rod Aldridge to the Labour party which led to his resignation may have been a mistake rather than a kick-back. But wealth creation is wealth creation, whether or not the enriched companies support your party or you are able to buy up lots of shares in the companies or look forward to lucrative post-ministerial directorships. All governments are concerned with wealth creation. In short; the promotion of technology in schools creates demand which private-sector businesses supply for a profit with tax-payers footing the bill. That private profit and stimulating the economy was the aim in the promotion of technology in schools by government ministers would be hard to prove. But it remains a possibility that the government is moved to encourage the development of this sector of the British economy and schools are a captive market.

The government agency Becta not only endorses but is promoting the use of fingerprinting technology in schools. There is no educational benefit to finger-printing children; no one has attempted to argue that having their finger-prints taken helps children's' 'learning'. But Becta is concerned with the 'effective and innovative use of technology throughout learning'. 'Learning' here doesn't mean the educational process – it means the educational estate. Becta's job is to increase the take-up of technology in schools. It is a sort of marketing agency for technology to schools. It is consistent therefore, to find the VP of computer and printer company HP UK and Ireland on the board of Becta. Nothing wrong with this gentleman of course but it gives us and idea of the function of Becta.

Becta have produced guidance to schools on finger-printing technology. The document is available on Becta's web site [4]. The document is entitled "Becta guidance on biometric

technologies in schools".

The opening paragraph of the document tells us that it has been produced with support from the Department for Children, Schools and Families. (A New Labour department name if ever there was one). This is Mr Balls' department, which, we have already seen is ultra keen to promote computers in schools.

This document has a kind of bland unfeeling tone to it. In explaining what fingerprinting technology is we are told "The technology is generally used to support business processes which require confirmation of identity ". I am not sure that most parents of school-age children would see their 10 year old borrowing a book from the school library as a business process. There is something dehumanising about the imposition of this kind of thinking onto activities which take place in schools. Of course, in a capitalist business we know that 'businesses processes' can be analysed and improved leading to greater productivity and profits. But is childhood not sacred? Using thinking and language from the discipline of systems analysis which is usually concerned with profits or military capability, to describe a child borrowing a library book, seems, to this writer at least, somewhat chilling. The document continues in this tone. The technology supports 'efficient management', for example. Queuing is 'speeded up'. 'Costs can be reduced'.

Becta give a number of examples to develop their case for fingerprint technology in schools.

In the first example we are told that card based systems for paying for lunch have benefits including a reduction in bullying and that pupils in receipt of free school meals are not identifiable, but that finger-print systems are even better as children cannot lose anything (since they are using their fingers) and bullying around the cards is eliminated.

In a second example Becta extol the benefits of card systems for registration on site and in the classroom. They "save considerable staff time and effort in taking registers" and can help prevent unauthorised access. When used in class they can reduce "in-school truancy" . (Truancy despite being a pejorative word is how Becta describes children missing lessons). Again, Becta tells us, or rather tells the prospective market for these devices, that fingerprint systems are even better than card based systems. Children cannot swap fingers as they may swap cards to log in absent friends.

The final example is the use of fingerprint technology for a library borrowing system. We are told that "pupils do not need to remember to bring anything with them to use the library and there is nothing that can be lost, stolen or exchanged" and "there is reduced opportunity for bullying and theft; pupils must be physically present to borrow items and cannot use another pupil's identity to do so".

In all three cases: library systems, lunch queue systems and registration (both on site and in class) Becta promotes the use of biometric technology over card bases systems – which themselves are presented as an improvement on non technological systems.

By the time we get to this third example Becta no longer actively mention card systems, though they are implied. This may be because the alleged flaws in a card based library borrowing system – forgotten cards and students using one another's cards ('stealing their identity') - would in fact be solved by using a human contact system where the librarian recognised the children. While personal recognition may not be practical in the largest of secondary schools it probably is practical in almost all primary schools and in many secondary schools. And we have to ask is there really a big problem of children stealing each other's library cards in schools?

What stands out in these examples is i) the lack of trust in children and ii) the attempt to use technology to solve problems of behaviour and human relationships.

The machines institutionalise a lack of trust towards children. *They present a posture that the adults assume children will lie.* This is the same thinking behind the use of biometric technology to catch terrorists. It may be the case that in the real world it is necessary for government to take a posture of mistrust towards, for example, all people passing through controls at the borders but, is this the attitude we should be taking towards schoolchildren? Does mistrusting children teach them trust?

Apart from the systematic cultivation of an attitude of mistrust towards children Becta is promoting the use technology to solve problems of behaviour and human relationships.

For example; another selling point to teachers is that these devices reduce bullying. Certainly this may be a problem in some schools – children bullying each other for lunch money and now their lunch card. But – part of growing up is friction. Part of the job of teachers is to sort out friction. Dealing with bullying is a difficult part of the job of being a teacher, so teacher's who wish to avoid this part of their job may well welcome a system which provides a technological solution. But eliminating the possibility of bullying over lunch cards (do children really bully each other for their lunch card?) is not the same as the schools teaching children not to bully. The same faulty thinking is present in the argument that fingerprint systems in the school library are better because children can lose cards but not their fingers. The possibility of losing something is eliminated. But children are not given responsibility for keeping a card and learning that if they lose it that there are consequences. A management problem is solved with no thought to the fact that children are growing up and schools could, or should, be places where they can learn certain lessons, not just be marshalled efficiently.

Fingerprinting, we are told will "save considerable staff time and effort in taking registers". Anyone who has taught will be aware that taking a register is a minor inconvenience which can in fact be turned into a way of establishing the start of the lesson. It becomes part of the relationship between teacher and student. What kind of vision of education is it where children anonymously log themselves into the classroom, absences are notified by text message to the parents and logged to the school computer, and the teacher just broadcasts today's government sponsored message to whoever is present in the class absolved of any responsibility for checking that they are there?

This is a dehumanised vision of education. It sounds like a brief on how to run an immigration centre as efficiently as possible. It sounds like the people designing the 'business processes' do not recognize that they are talking about growing children in schools; it is simply a question of managing a population as efficiently as possible. This says something about how Becta views education as a whole.

Paulo Freire, author of the seminal work Pedagogy of the Oppressed [5], spoke about 'the banking concept of education'. In this model children are seen as empty vessels to be filled up with knowledge. The teacher has the knowledge and her job is to fill the children up with it too. In this case any process which moves children around the school premises as 'efficiently' as possible to their next class-room, where they can sit passively and take in the knowledge which is doled out, is a 'good'. In this model the more passive the subject the better; as they are more likely to receive knowledge while in a passive state. There is in fact a contradiction in this model; on the one hand the children are required to be as passive as possible almost to the point of non-existence; talking and moving about in class are forbidden other than under the control of the teacher; but on the other hand ultimately children are required to be active subjects – at least active enough to join in economic activities, for which they must exist. There is a connection between the banking concept of education and the use of biometric technology in schools. Both are essentially depersonalising; neither is interested in the individual. There is no need for human relations. People who understand education in terms of the efficient injection of knowledge

units into obedient and passive subjects will not have any problems with systems which marshal such subjects around the building as 'efficiently' as possible.

The use of card based and especially fingerprint technology in schools as promoted by Becta will reduce the following kinds of human interactions:

i. Between teacher and class; as a computer takes the register not the teacher.

ii. Between students and non-teaching adults in the school, such as the librarian or dinner lady.

Iii. Between students themselves. Becta claims that use of both card based and fingerprint technology will remove the possibility of students in receipt of free lunches being identified. But – what is wrong with students being aware that some of their peers are poor? We live in an economically very unequal society. Why does Becta think this should be hidden from children? Why should the ones in receipt of this benefit be encouraged to hide it?

iv. Between students themselves. Becta claims that 'cashless catering' speeds up the lunch queue. More efficiency. That may be a good idea but it also reduces opportunities for chat in the lunch queue.

v. Between students themselves. While bullying is not something one should promote as a kind of interaction, as we've already noted, simply removing opportunities for bullying does not teach children good behaviour or socialisation. In any event the bullying may come out somewhere else.

And, as we have noticed, the use of fingerprint technology over card-based systems deprives children of the opportunity to learn about managing a card, keeping it safe and not losing it; a responsible adult skill. The implication appears to be that Becta sees infantalising children as a good. In this sense the claim of campaigners that the use of fingerprint technology in schools is about softening children up for the depersonalised surveillance society is not as far-fetched as it might sound at first.

Conclusion

It is to fundamentally misunderstand education to think that it is a 'process' which can be improved by technological efficiency in the same way that, for example, a factory making processed cheese can be improved by technological innovation. Education is not an industrial or business process and children are more than lumps of cheese, to be moved through the factory as efficiently as possible, without bumping into each other and incurring as few costs as possible.

Becta, the government body, which sets the tone for this adventure (bringing up a generation of children on fingerprint technology) is not in fact tasked to critically evaluate how technology could help education. It is tasked, in a general way, to promote the 'innovative use of technology' in schools. We live in an age which worships technology as an end in itself. Our vision of the world is a technological one; we see not just things but also people as things which can be manipulated to our benefit by technological means.

There is an uncritical blindness in this belief in technological solutions no less fanatical, in the sense of being uncritically examined, than the blind adherence to the teachings of a religious book or a religious cannon.

The promoters of fingerprint technology in schools are doing no more (and no less) than bringing children into this technological world-vision at an early age.

It may be that it isn't the 'efficiency' *per se* which is the attraction. For example; the cost-savings to a school of using a fingerprint system over a card-based one are minimal. It may be that the profits to be made by businesses supplying this new market isn't the primary driver for the promoters of these technologies; after all profits could be made supplying many kinds of things to schools other than biometric identification systems (though there are linkages between the profit system and the technology mode of understanding the world).

It could be that the real driver here is the belief in technological solutions as the staff of life and a desire to fully soak the upcoming generation in this way of thinking – in the same way that the Taliban, for example, apparently think that the best (only) education is rote learning of the Koran and Soviet education aimed to build good little comrades. On this interpretation we are saying that this campaign to promote fingerprinting technology in schools is a form of education. Children are being educated in the technological way of seeing things, in the most effective way possible; by direct participation. This is the way of thinking which characterises modern Western societies.

Some people are so caught up in the Western, 20th/21st Century, technological mode of understanding the world and how to operate in it that they have no distance on it, cannot see its relativity, see how it obscures Being. (The thinking here about technology as a way of understanding the world which obscures Being is based entirely on the thinking in Martin Heidegger's 1949 essay The Question Concerning Technology to which the reader is referred for a full exposition including Heidegger's thoughts that technology could eventually call human beings back to themselves)[6]. For the most uncritical adherents of this vision, the one which dominates our age, promoting it to children in the form of fingerprint technology in schools is not sinister; it is almost natural.

Those who criticise this use of technology in schools are probably those who do not share the technological vision of life. What is at stake here is precisely whether an un-criticised technology vision should be promulgated to the next generation or whether some other vision should be.

There is not space in this essay to discuss that other vision, but from the criticism of the technology vision certain aspects of it should come into light.

Notes.

1. http://www.dailymail.co.uk/news/article-447420/Schoolchildren-fingerprinted-Big-Brother-style-shake-up.html

2. Should schools be finger-printing our children. 13 March 2009. Daily Mail

3. Private email communication 24 February 2009

4. http://schools.becta.org.uk/upload-dir/downloads/becta_guidance_on_biometric_technologies_in_schools.pdf

5. Paulo Freire. Pedagogy of the Oppressed. Penguin. 1996.

6. The Question Concerning Technology. Martin Heidegger. Philosophical and Political Writings. The German Library Vol 76. Continuum. 2003.