Computing for the Masses? Constructing a British Culture of Computing in the Home

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Abstract: The creation of the personal computer during the late 1970s and early 1980s is heralded as a time that people were liberated by computers as tools for everyone. The proliferation of affordable and relatively powerful computers changed the landscape of computing across the globe. This chapter looks at the introduction of one machine, the BBC Microcomputer, and its influence on the culture of computing in Britain. It has been celebrated as a computer that transformed the educational landscape and brought the power of these tools to a new generation of users. The chapter shows how the machine was constructed within a broader ambition for computer literacy within Britain, and discusses the role of the BBC team in creating the meaning and values of the machine in the home. It illustrates the interplay between a broadcaster, government desire for a high-tech industry and perceived consumer needs. Drawing on the social construction of technology by a variety of actors (Woolgar, 1991) the chapter suggests that enthusiasm for the BBC Microcomputer came not only from the creation of a concept of utility for home machines, but in its role as a technology that embodied the future and symbolised the social capital of the home.

Recent nostalgia for the BBC Microcomputer and Computer Literacy Project has celebrated this moment in the 1980s as a time when the government seeded a new passion for computing. The chapter suggests that similar projects today, which aim to create an interest in programming, should facilitate a social need for empowerment and interaction in the home, rather than focus purely on the technical capabilities of the machine or push a concept of the perceived utility of computers in education.

Keywords: Computer Literacy Project, BBC television, BBC computer, Acorn

1. We are Afraid of the Future

> *"Perhaps the survival of a nation depends upon its people finding meaningful lives. The questions shout. What is shocking is that the government has been totally unaware of the effects that this technology is going to create. The silence is terrifying. It's time we talked about the future." (Goldwyn, 1978)*

When the BBC's *Horizon* programme: *Now the Chips are Down*, was broadcast in 1978, these final words shocked the nation. Television screens across Britain turned black as the programme's director, Edward Goldwyn, stressed the impact the microprocessor and automation would have on employment.

The programme had taken over two and a half years to research and produce. It showed how microchips were made and involved some difficult filming, especially in the clean area of a chip production plant in Silicon Valley. Initially the BBC crew were denied access to this state-of-the-art facility, but the decision was overruled from the top when Robert Noyce, one of the original inventors of the integrated circuit, gave the BBC crew unique access to the clean room at his microchip company Intel.

Projecting dystopian views of the impact of technology on society, the television programme showed robots working without any human intervention, suggested there would be far fewer jobs in manufacturing as we moved to automation, and ended with a completely blank screen. Goldwyn had agonised for days about how the programme should end, concerned that nobody within UK's Callaghan government seemed to be taking the issue seriously and that the weight of the issue was all on his shoulders[1]. In the end he decided that a blank screen would bring home the gravity of the issues involved and a decision was made within the BBC that the transmission of the programme should be followed by a debate about what could be done to prevent a terrible future of mass unemployment.

The impact of the programme was enormous: that night the office of the Prime Minister, James Callahan, asked the BBC for a copy; questions about the elimination of jobs by microprocessors were raised in parliament[2]; a trade union made 78 copies of it and showed them to its members[3]. The programme's influence even began to spread overseas as the Organisation for Economic Cooperation and Development (1981) raised it in Paris during international discussions on microelectronics and productivity.

But *Now the Chips are Down* also created a massive impact as it tapped into a bigger culture of concern about the nation's response to its changing economic position and developing technology. There was considerable anxiety that Britain was not doing enough, in terms of industrial support and skills development, to embrace new technology. Britain had been through a period of rising unemployment, high inflation and economic crisis exemplified by the need for an International Monetary Fund loan. It was about to experience the 'winter of discontent' as widespread strikes spread across Britain when the unions reacted strongly to the Labour government's attempt to limit pay rises. The future did not look rosy, and people were looking for a serious response from the government.

Some organisations believed the government had done little to take account of technological change and the skills shortages that produced. The National Economic Development Office (1978) noted that there were specific skill shortages in the microelectronics industry and a need for a coordinated programme to develop

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1 Interview with Edward Goldwyn, Science Museum, 13th March 2006.

2 Mr. Sherby asked the Secretary of State for Employment what consideration he had given to the effect on employment prospects during the next decade of the development of micro-processors and their use by industry and commerce in ways which will eliminate many jobs. Mr. Golding replied: "*The Employment effects of technological developments which are the subject of present studies are naturally a matter of great concern to me. The Government are fully determined to ensure that the additional wealth which they create will be used to expand employment in other sectors*". Parliamentary Debates (Hansard), 25th May 1978, Vol. 950, c. 680.

3 Interview with Edward Goldwyn, Science Museum, 13th March 2006.

awareness of the potential uses of microelectronics in the rest of the industry. The Council for Educational Technology (1978) stressed the importance of learning microcomputing in schools. Government departments, such as the Department of Education and Science (DES) and the Department of Trade and Industry (DoI) began to stress the desirability of computer related learning and promote the use of new technology in schools as a panacea for economic recession (Linn, 1991). There was a general conviction that the country must jump on the microcomputer bandwagon, or it would get seriously left behind. With support from government, the BBC, began to think about how it could step into the frame.

2. Constructing Computer Literacy

'The aim was to democratise computing.
We didn't want people to be controlled by it, but to control it.'
David Allen, Project Editor, BBC Computer Literacy Project, 2012[4]

As a result of government concern for the future and the high-profile of the microelectronics revolution, the idea for a Computer Literacy Project began to be developed by the BBC. In the late 1970s the BBC's Continuing Education Department was very strong within the organisation and the Head of Continuing Education Television, Sheila Innes, believed fervently in adult self-improvement and the BBC's role in 'bringing education to the people'. For Innes, the power of television was its ability to educate the largest number of people in the broadest sense.

In early 1980 Innes sent two people from her team, David Allen and Robert Albury, to '*go and see if there is anything in this microelectronics business*'[5]. Their work was backed by the British government's Department of Industry (DoI), the Department of Education and Science (DES) and the Manpower Services Commission (MSC), a quango responsible for establishing the national training needs of the country. The DoI were to help with the consultancy, and the MSC would finance a global fact finding trip through a grant of £10,000 that included America, France, Germany, Holland, Norway, Sweden and Japan. The result of David Allen and Robert Albury's extensive research was a series of three television documentaries, *The Silicon Factor*[6], which looked at the social impact of the micro chip, and a report, *Microelectronics*, distributed in August 1980. The document was widely circulated to policymakers in Britain, and copied to all MPs.

As well as highlighting the need for changes to Britain's work structure and ethic, the *Microelectronics* report suggested there was a strong argument for educating children in computing, vocational training in Further Education, and Adult Education focused on the professions, so that at all levels there were advocates for computer

4 David Allen at the Beeb 30th Anniversary panel debate held by the Centre for Computing History, at ARM, Cambridge, 25th March 2012.
5 David Allen, BCS@50 conference, British Computer Society, 14 July 2007.
6 Complete list of associated programmes in Appendix B.

literacy across society[7]. As a result of the report the BBC's Continuing Education Department decided they should start a computer literacy project.

The Continuing Education Department had recently completed a successful adult literacy scheme, with associated television series, called *On the Move*, featuring the then relatively unknown actor Bob Hoskins. This included training and activities to support the television programmes. The Continuing Education Department decided to base their computer literacy project on a similar model, offering viewers not just television programmes, but courses, supporting books and software, a strong liaison network for teachers and learners.

But during the development phase of the project the same question kept arising: how would viewers actually get their hands dirty programming if they didn't have a machine, with a standard language, to program on? How could the BBC hope to educate people in programming if there were so many different flavours? Eventually, this led to the decision for the BBC to license production of a BBC branded microcomputer.

3. Constructing the Machine

Within the Continuing Education Department at the BBC the team had evidence that television programmes work brilliantly at sparking enthusiasm and teaching them a little bit, but that the most important thing they do is to motivate people to go out build on their interest. Educational television can inspire people to buy books, or take a course in something, but the best way of learning what a computer could actually do was to run a program, adapt and change it and learn to control a computer by writing your own program.

The BBC computer Literacy Project team, led by Executive Producer John Radcliffe, looked at the range of different and incompatible programming languages in the market, and realised there was a need for one consistent language that could support the television programmes and offer a complete and integrated learning system across computing and television. Rather than create their own machine, the Department of Industry (DoI) and the BBC Education team originally tried to persuade the British computing industry to all implement a common language – ABC (Adopted Basic for Computers). All the manufacturers were brought into a room in Cavendish Square, London and were told that if they did this their machines could be used as part of the project. The manufacturers refused to do this unless there was some financial support for the development of the chips. The government was not forthcoming, so the BBC began to look at alternative arrangements.

Originally with the DoI they approached Newbury Laboratories, but when discussions at the end of 1980 had still not resulted in any concrete prototypes, John Coll (an educational adviser who worked at Arundel School and represented Micro Users in Secondary Education) and David Allen drew up a functional description of the machine[8]. This ambitious specification required the machine to be transparent, upwards expandable (so that the machine could work with future hardware) and

[7] D. Allen and R. Albury, 1980, *Microelectronics*, BBC Education, pp.1-64.

[8] John Coll, 'Outline Specification for the BBC Microcomputer.' No date.

downwards compatible (so that it worked with as much existing software as possible). It also had to give users the opportunity to programme at different levels of complexity, so that entry level programmers had as much fun as those with more developed skills. The specification had 'everything but the kitchen sink in it'[9] but just in case all that wasn't enough, it was agreed that the machine needed to be low enough in price for it to be accessible to a large audience.

The BBC team approached seven companies (Acorn, Tangerine, Newbury, Research Machines, Sinclair, Transam and Nascom) to submit bids to build the BBC machine. These British companies were specially selected because of their reputation in the existing industry and fears that an open tender would result in an overwhelming number of bids.

After a series of meetings the BBC gave the leading contenders less than a week to produce a prototype that went some of the way to meeting their specification. The Acorn team, made up in part by Hermann Hauser, Chris Curry, Steve Furber, Sophie Wilson and Chris Turner, worked three days and two nights almost continuously to get a working prototype together for the BBC visit on Friday. They called in Ram Banerjee, 'the fastest gun in the West'[10], to wire wrap (a simple way to prototype) the machine by Wednesday. The team started to debug it, but by Thursday night it was still not working.

As Steve Furber recollected, '*We were all getting very tired, but Hermann was very good at team motivation. It was always his job to go out and buy the kebabs and he would make the tea. He would do all these things just to keep people going. We were all staring at this thing that was still refusing to work and Hermann suggested something like, 'cut the umbilical cord from the prototype to the development system and let it run on its own', which seemed completely daft but we were all out of ideas. So we tried it and the whole thing sprung into life. It was major irritation that Hermann made the final suggestion that caused it to work!*'[11]

By 7am Friday morning the prototype was running and the BBC were coming at 10am. By the time they arrived BASIC was running, with real programs, and by the afternoon some graphics were working. As well as being impressed with the demo, the BBC also liked the 'we can' attitude at Acorn[12] and got on well with the team. The two teams went for a drink in Cambridge after the demonstration. A few days later there was an internal meeting of BBC staff and consultants, chaired by John Radcliffe, where the BBC made a careful comparison of the evidence from the preliminary meetings[13].

The eventual tender was won by Acorn Computers of Cambridge as they had a proven track record building rack-based machines for research laboratories and a reputation for producing reliable single board machines. They had experience of manufacturing the Atom in large numbers (around 10,000 were sold) and they were well known to be working on a successor machine, known as the Proton. This

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9 David Allen at the Beeb 30th Anniversary panel debate held by the Centre for Computing History, at ARM, Cambridge, 25th March 2012.

10 Interview with Sophie Wilson, 16th Oct 2007.

11 Interview with Steve Furber, 28th January 2008.

12 David Allen at the Beeb 30th Anniversary panel debate held by the Centre for Computing History, at ARM, Cambridge, 25th March 2012.

13 Email from John Radcliffe Wednesday 24th September 2008.

infuriated competitors, such as Sinclair who had already produced one of the leading and most successful consumer machines, the ZX80, and had developed, but had not yet launched, the new ZX81 machine. Later this computer would go on to sell a massive 1.5 million units.

Although at the time the decision was controversial, the BBC felt the Sinclair machine was not complex enough, offering less memory and less room for expansion. There were also concerns that Sinclair would not design a new BBC machine but that they would end up with a 'Sinclair machine badged in BBC colours'. Despite being unsuccessful at this stage, Sinclair machines continued to sit in constant competition to the BBC Microcomputer, making the most of the national drive for home computing and selling at far higher volumes than the BBC machine.

4. Constructing Need

Launched on the 11th January 1982, the BBC Computer Literacy Project was foremost a television series imaginatively called 'The Computer Programme'. It was originally planned that the BBC Microcomputer would support these programmes, but production delays by Acorn meant that very few viewers could use their machines alongside the television series.

After the first television series there were further series such as 'Making the Most of the Micro' and 'Micro Live'[14]. The BBC television series played a major role in promoting computing to the masses – showing consumers what it was for, what they could do with a computer and how to program. As Haddon (1988) has illustrated, many of the early 1980s activities of consumers around new home computers consisted of constructing a use for the machine that did very little. Often the act of programming became an end in itself.

Although the BBC television programmes focused around the BBC Microcomputer, their desire to construct the utility of the machines sparked a wider enthusiasm for other home computers and the concept of the computing 'revolution'. In this way the BBC team began to act as 'heterogeneous engineers' (Law, 1987), not only creating the new technology, but defining the social roles, meanings and values of the artefact in society.

The BBC's computing programmes reached audiences between 500,000 and 1.2 million late night on BBC One and, despite the computer's reputation as a schools machine, the television series reached 16% of the adult population through one programme or another[15]. The television programmes brought the Computer Literacy Project directly into the living room, and constructed a vision of a new engaged electronic consumer. Using multiple channels, such as radio, television, books and training, the project aimed to 'raise the level of public awareness of what computers are and of how they can contribute to life at home.'[16] So forms of use and social

[14] Speech summarising the key elements of the BBC Computer Literacy Project, R103/101/1 Acorn Computers BBC Master Series Micro Exhibition and Launch.

[15] John Radcliffe, "BBC Micro ignites memories of revolution", BBC website, 21st March 2008, http://news.bbc.co.uk/1/hi/technology/7307636.stm.

[16] 'Acorn Computers BBC Master Series Micro Exhibition and Launch' in File R103/101/1.

meanings of the machines were not just defined through the television and hardware, but through additional software, courses and beyond.

BBC Education worked with BBC Publications to co-ordinate the production of books and software to accompany the microcomputer. This started with the team commissioning 'Welcome software' on a cassette which came with the BBC Microcomputer, demonstrating colour, sound, graphics, double height as well as single height teletext lettering, screen pages (not scrolling green text on a black background) and the ability of the computer to start and stop the cassette recorder.[17] They then looked at developing further software, as they thought that, just as in the early use of radio, people had become interested in the hardware and then the programmes, so with the microcomputer people began their interest in the hardware but would soon become shift their focus to the content and use of the machine.[18]

Another very significant part of the Computer Literacy Project as a whole was the formal agreement between the BBC and a referral service called Broadcasting Support Service (BSS). Financially supported by the National Extension College, Acorn Computers and the Department of Industry, it acted as a central information point for the Computer Literacy Project: on software; on the computer; on the television programmes and to put viewers in touch with local classes and clubs. The service didn't just deliver to enquirers, but crucially identified other people and organisations that could become part of a bigger network of local sources of help and advice. 800 agencies, including adult centres, universities and computer clubs registered within a month, with the final total being over 1,000. Soon the BSS were answering over 2,000 letters a week (Radcliffe, 1983, 30 - 31).

With computing on mainstream television, and courses such as '30 Hour BASIC' and support networks pushing the idea of computing as the future, the home computing revolution quickly became a phenomenon well beyond the BBC. National newspapers carried stories about the technology companies and the tabloids began to run 'get rich quick' stories about a new generation of computing entrepreneurs. At the same time newsagents were full of a plethora of new computing magazines, such as *Sinclair User*, *Micro User*, *Acorn World*, *Commodore Horizons* and *Amiga World*, which offered programs, often games, which could be copied out and run on the home devices.

Government educational initiatives had also got underway. By 1981 the DoI had set up the Microelectronic Programme (MEP). Headed by Richard Fothergill, it allocated £1.2m in its first year and set a new strategy (Linn, 1991). At the same time as this strategy appeared, the DoI announced a new Micros in Schools programme for secondary schools. This part funded a computer for each school, with the aim to invigorate British industry as well as education. A school taking part in the scheme could purchase a Research Machine 380Z (which had become a Local Education Authority (LEA) *de facto* standard) or a BBC Microcomputer Model A or B. By October 1982 the scheme was extended to primary schools, with the opportunity to have the cost of the Research Machine 480Z, BBC Micro or a Sinclair Spectrum

[17] Email from David Allen, 3rd May 2012.

[18] Paper tabled by Bob Salkeld at EO's Meeting April 20-22 1982, R99/172/1 Microcomputer Software Policy.

covered. In return for receiving the subsidy, schools were expected to provide teachers to attend a LEA in-service training programme[19].

The *Micros in Schools* scheme is how the BBC Microcomputer got its reputation as a schools machine, but as we have seen, the broader Computer Literacy Project played a significant role influencing perceptions of computing at home and specifically for enthusing a generation of adults and parents in the future opportunities presented by computing. It is a general misconception that the BBC Microcomputer was aimed only to be an educational machine. The Computer Literacy Project was targeted at a broader audience, particularly adults who did not have any previous experience of computers, and as such formed a vital role in defining the culture of home computing in Britain. BBC microcomputers were aimed at the home market, as an accompaniment to the television programmes and giving people a 'standard' model on which to learn. While BBC Micros were encouraged in schools, it was not the main aim of the BBC to create a schools machine. They wanted to work with a range of other organisations, both in and out of the MEP, who were interested in promoting computers in schools.[20]

5. Meaning in the Home

The Computer Literacy Project had the grand ambition to change the culture of computing in Britain's homes. But what was the impact of the project and did it promote a cultural shift in attitudes to computing? We have recently collected evidence of the Computer Literacy Project's lasting influence and legacy through an online survey. 372 respondents answered a questionnaire on the influence of the Computer Literacy Project and the BBC Microcomputer on their early and subsequent computing careers. Rather than identifying the importance of school and classroom learning, many identified the influence of their parents in developing their enthusiasm for computing[21]:

> *My dad was a science teacher at a local school, so he'd always bring home computers. I grew up surrounded by them and would spend some of my spare time learning to program in BASIC, copying code out of magazines so I could make games.*
>
> **Stef, Respondent 1755262610**

> *My father. He was a university graphics lecture and graduated to multimedia design in the 80s. We would bring computers home over the*

[19] Letter from Bob Salkeld, to Don Steel, EO CE North, 1st July 1981, R99/123/1 BBC Microcomputer Acorn Computers Ltd.

[20] Interview with Richard Millwood, formerly of the Computers in the Curriculum project at Chelsea College, University of London, which was sponsored by the MEP, 27/03/2012.

[21] This was part of an online questionnaire in 2012 targeted at individuals who were interested in personal computing in the 1980s. The questionnaire was emailed to 150 individuals and sent out on Twitter; 372 people started the survey and 292 (78.5 per cent of the total) completed it. The larger findings can be found at: http://www.nesta.org.uk/bbcmicro.

summer holidays and eventually bought one for me when I was in my mid-teens.

Tom, Respondent 1753570087

My Dad brought home a Sharp MZ-700 computer from work when I was seven. It was literally the most incredible thing in the world. I became absolutely fascinated by it, and would sit with him as a kid while he entered some of the sample computer programs from the (extensive) manual. With time, and by studying the sample programs, I started to write my own.

Greg, Respondent 1752697753

Parents did punch cards and paper tape... Pestered them for a Spectrum 48K which we used to game and program, and in summertime, my Mum (now a teacher) would bring home a BBC from school, ostensibly for her own familiarization, but it also got used for 'Yellow River Kingdom' and 'Elite'...

Lindsay, Respondent 1756199469

For others the computer was inextricably linked to the sense of novelty and the future:

I was fascinated by robots and computers from a very early age. Probably inspired by Star Trek and other SciFi, but I was interested in real computers not science fiction.

Martin, 1749329528

I was amazed about computers since I was 8 years old. They were kind of mystical objects to me. Perhaps I felt that they represented the future, and also my future. I wasn't able to have one though until I was 16 years old.

Hector, Respondent 1746442794

My Dad bought me a BBC Micro computer when I was about 10 - that would have been around 1984. Me and my younger sister used to love to copy lists of code instructions from manuals for hours, until we got the end result of our names flashing in cyan and moving across the screen. The code we'd copy got more complicated, until we were moving objects across the screen! I think it gave me a love of finding out how things work, and how you could change code and control the output. I remember my Dad saying to us that we really should learn, as 'computers were the future'.

Katherine, Respondent 1744306281

The BBCs computer literacy programmes brought attention to computers and IT as a possible career to lots of bright contemporaries searching for a possible future career.

Tim, Respondent 1750893805

I visited a friend's house whilst at school where he showed me a mouse and that was it. I could see the future play out before me.

Matt, Respondent 1762010972

As Selwyn (2002) has shown, the notion of the computer as an inherently 'educational' machine has been a powerful influence on both the conceptualisation and consumption of information technology, but this 'hype' around the educational computer is noticeably at odds with the actual but often ignored impact of computing technologies at home. As borne out in responses to our questionnaire on the BBC Microcomputer. Respondents rarely talked about the educational value of the machine but did talk of their excitement about doing things with computers at home, particularly playing (and sometimes writing) games:

Both Star Trek and Blake 7 made me interested in science fiction and the art of technology. Games arcades with Space invaders in 1977 and watching Pong played on Crackerjack intrigued me as to how they actually worked.

Ian, Respondent 1760350457

Aside from the BBC Micro - I had also a Sinclair spectrum which I played various games on - and later used as a rudimentary line plotting device as part of a camera dolly set up.

Philip, Respondent 1747647713

After the wooden-box-hex-keypad computer, dad bought a TRS-80, then a BBC. I was allowed to go on the BBC. I typed in programs and fiddled with commercial games.

John, Respondent 1749765016

The BBC Micro was probably the most important machine I owned and worked with… It was very open, encouraging exploration and tinkering. Its limitations were a challenge, forcing economical and ingenious approaches that have stood me in good stead ever since. Its community of users and programmers were welcoming and shared their knowledge and passion freely. I owe my career to the BBC Micro. I have founded successful startups in Silicon Valley and worked for Apple and Google. I earned a PhD in Artificial Intelligence. I was inspired by my BBC Micro.

Dan, Respondent 1744975368

BBC Micro was a complete machine because you could do scientific experiments and produce analysis with it. It established a culture for making computers do useful things other than play games or write letters. It gave me opportunity and was empowering. When used in the Domesday project it brought 'tomorrow's world' to the present.

Bill, Respondent 1745918926

These quotes show how the discourse of 1980s home computers is often about fiddling, tinkering and playing at home, rather than any real sense of use or

educational value. The machines facilitated social interaction and gave respondents to the questionnaire a sense of freedom and empowerment:

> *Freedom to do whatever I want to do. As a child, able to make my own games. Use a vessel for self expression.*
>
> **Memo, Respondent 1752019607**

> *In 1982 my mum bought a ZX81 with her first paycheque from a part-time job. I was 13 at the time. As soon as she switched it on, I was fascinated. Here was a machine that could do anything and, even more impressive, I could make it do things.*
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> **Dan, Respondent 1744975368**

The open and accessible nature of early home computers invited consumers to explore and experiment through activities such as programming and gaming. The machines themselves did not have specific use – it was the pleasure of making them do something by programming and bringing people together through the technology that defined the meaning of the BBC Microcomputer for users in Britain's homes.

6. Constructing computer enthusiasm today

Today there is a renewed interest in Britain developing a fresh generation of computer programmers. Unlike the late 1970s and early 1980s this is not because of a fear of what may happen to the structure of work in Britain in the future, but because of a real concern now about the drop in the number of students studying computer science and an anxiety that current ICT education in schools is failing students (Royal Society, 2012). Our education system is perceived to concentrate too heavily on using commercial software packages such as Microsoft Office and not enough on how computers actually work. The lack of programming experience is also cited as a problem with modern education courses.

New technological initiatives, such as Scratch, a programming language developed at MIT that makes it easy for children to create interactive stories, animations, games and share their creations on the web, and the UK's Raspberry Pi, that offers a credit-card sized computer that plugs into a TV and keyboard at the cost of only $25 plus tax, are hoped to present some solutions. Others hope that computer clubs, such as Young Rewired State which aims to get young children teaching themselves to code, and Code Club, where volunteers run programming after-school clubs, will present more social environments to enthuse children in programming. But most of there isitatives are still focused around the school and formal education. Even after school clubs happen in a education environment, be it after formal lessons, rather than in the home.

Selwyn (1991) has highlighted how during the 1980s the concept of the 'educational computer' was enthusiastically pursued by the government, the IT industry and the media, often with the ambition to sell more machines, support industrial policy and modernise schools. However such analysis fails to acknowledge the wider role of the BBC's Computer Literacy Project, and the construction of the BBC Microcomputer as a home machine where families could share programming as

an activity and reflect their own social and cultural values in their consumption of the machine.

Today's renewed interest in computer literacy presents Britain with another opportunity to enthuse a new generation in the creative uses of computing and gives us an opportunity to reflect on initiatives from the past. Few programming initiatives today focus on the importance of social interaction in the home or parents' contribution to learning. Instead they look to online social networks or schools to recreate the environment of the BBC Computer Literacy Project and BBC Microcomputer. None of the current initiatives are working with a broadcaster to reach into adult education, or aim to significantly challenge the cultural perception of programming in the home. Given the ambitions and the perceived success of the original BBC Computer Literacy Project, there is obviously a need to construct our notions of computer literacy well beyond the utility of the machines and their educational value. Computing has real social and cultural value, and by failing to acknowledge the role of the home we are missing an opportunity to reinvigorate the culture of programming in Britain.

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