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SPRING 1987

MICRO SCOPE

Newman College with MAPE

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MICRO-SCOPE 20

Editorial

Technological advancement continues at an ever increasing rate; cable television, satellite broadcasting, transputers, laser disc technology and so on. In the world of education, electronic mail is one of the developments currently attracting attention. Desk top publishing is another. How long will it be before a school can produce a school magazine, which matches the standard of a professional newspaper, for parental consumption, while at the same time transmitting the contents to a school in Australia via a telecommunication link? The answer is not tomorrow; it can be done today. *Front Page Extra* and *Newsbulletin* are programs which introduce some aspects of newspaper production and local viewdata. More sophisticated software exists to enable teachers to build upon these first experiences.

In fact the trend of early years has been reversed. No longer is there a dearth of good educational software – there is an embarrassing surplus, to the extent that teachers desperately need help to cut through the jungle of software literature that they are being bombarded with. On the other hand the hardware situation is no longer clear. The advantage that Britain has held over the rest of the world in terms of educational software development is largely attributable to the policy of standardisation with respect to the Acorn/BBC, RML 380Z/480Z and the Spectrum. But what if primary schools want to purchase another machine now? We must not let this policy disintegrate. If we splinter to support a wider hardware base we are in danger of losing the excellent software support that we currently have. To BBC users I would suggest that a school considers the BBC Master – not the Master Compact, despite the questionable advertising campaign offering schools a free micro for every 25 purchased. To RML users, primary schools must seriously consider the Nimbus; this is a far superior machine to the 480Z and very attractively priced. We must build upon past lessons – to ensure a progressive software base it must be Master or Nimbus.

And what of Domesday? For most primary schools the price tag of approximately £2800 upwards puts it outside the range of the school budget – excellent as it may be. Thank you most schools for your free labour, for signing away copyright, and good night.

Roger Keeling

* * *

MAPE COURSE/CONFERENCE
April 10th–12th 1987; Newman College

Write for further information, and booking form, to Dave Whitehead, Newman College, Bartley Green, Birmingham B32 3NT.

DON'T DELAY! BOOK TODAY

* * * * * *

Look in Junior Mike Crow (coloured centre pages) for a competition sponsored by Cambridge University Press.

Letters

Simulation and real experience

I have been concerned that limited computer access in our primary schools still tends to mean that, in many instances, the computer activities are not forming an integral part of the curriculum. The machine appears for its one day a week or one week each term and, rather like a visitor, is forgotten in between.

I was therefore interested in Keith Whiting's Viewpoint in *MICRO-SCOPE 18*, and the questions he posed about the use of simulations.

Obviously we need improved resources and more broadly based courses if the computer is to become a fully accessible and constantly used tool in every classroom. Meanwhile I believe we must be conscious of relevance if the best use is to be made of the available micros.

This year I found my own answer to simulation and real experience compatibility; one of its advantages was that it cost me nothing!

In response to Industry Year my class of six to seven year olds was involved in the study of supermarkets. After numerous visits to two different kinds of supermarket, one a local family-run business and the other a branch of a national chain, we set up our own supermarket in the classroom. A vast collection of assorted cartons and bottles was made. We had studies bar codes and the use made of them, by each of the stores visited, in stock control, ordering and at the checkout.

Our 'stock' was re-labelled with a simplified code. As the school computer was not available, a simple program was devised by my husband for a Tandy TRS 80 with printer, which made the position of checkout assistant the most popular job in our classroom supermarket! Through role play the children acquired a working knowledge of a relevant use of computers which they had seen demonstrated and with which some of them may well find themselves involved in the future.

This is only one small example of how we can base our work on first-hand experience but is perhaps an indication of the kind of computer-based support work to aim for, if it is to be appropriate and relevant.

Incidentally, it could also provide the answer to integration of the spasmodic appearances of the micro in your classroom.

Eileen Risk
Stone, Staffs

Are simulations stimulating?

I read with interest the Viewpoint article, 'Are simulations stimulating?' My reasons for writing are threefold.

Firstly, the dictionary definition used by Mr Whiting is somewhat incomplete. The Pocket Oxford Dictionary adds 'wear the guise of or act the part of', whilst the Longman Dictionary defines the noun simulation as 'representation or imitation'. Surely these definitions place an entirely different emphasis on the simulation in primary curriculum than to feign, to sham or to counterfeit.

Secondly, the central question of the article challenges the value of simulations. Norman Thomas in the Primary Special stated of simulations, that 'there is no doubt that some of these are far superior to the topic work now done in schools. . . . When used well they give children a sense of immediacy and involvement and call for much use of books, charts and pictures, visits to museums, writing and discussion'. Surely the simulations should be seen as an additional experience which gives another dimension to a good integrated primary classroom topic.

Thirdly, I hope that I can put Keith Whiting out of his misery and tell him of a pack which may prove to be just right for him to use in his fourth year industrial revolution topic and hopefully encourage him to take his class to Ironbridge even on a cold and wet October day. I perhaps should explain that it is the result of an MEP project for which I was responsible.

The Forge Pack is a classroom resource aimed at children from the age of ten upwards, working in small groups of three or four. It places the children in the latter half of the eighteenth century and offers the opportunity for them to take on a variety of roles and make decisions, all related to the early industrial revolution.

There are several elements within the pack . . . an illustrated story, software, information sheets, activity sheets, a wall poster, photographs and copies of contemporary documents. The story forms the common spine of the pack, the software and activity sheets being used sequentially at specific points in the story.

The story tells of the Earl of Radcliffe and his efforts to introduce and develop a furnace and a forge on his estate. It also includes information which relates specifically to the software and activity sheets.

The first program places the child in the role of a 'surveyor' who must find the best possible site for the furnace and forge.

The second program allows the child to adopt the role of an ironmaster running an experimental campaign to determine the 'burden' or mixture of coke and ironstone which produces the best quality pig iron.

The third program simulates the running of the Earl's three major assets. Three small groups of children each manage one of the Earl's assets, either the furnace, forge or mines. Each group must therefore develop a strategy to solve the many problems that are created, not only the year by year running of each element, but also unforeseen incidents caused by acts of God or historical fact. This interactive simulation encourages thinking skills, decision making and discussion.

Included in the pack are three datafiles relating to the 1851 census. The major file contains a record for every individual living in Marr (a fictitious village), the second file records those who were working at the forge and a third file records those who lost their lives in a disaster at one of the Earl's mines.

The Forge pack is designed to provide a centre of interest for, and to enhance, an integrated topic related to the iron industry and the early industrial revolution, in keeping with good primary classroom practice. It is envisaged that the pack will provide sufficient stimulus and material to cover a full term. There are numerous 'jumping off points' which will allow teachers to tailor the use of the pack to their classroom needs.

As Mr Whiting says 'there can be no substitute for local visits and experiences.' In using the pack it is hoped that the children will be given the opportunity to visit one of the many interesting sites around the country. First hand experience of this nature will help the children bring together that which remains 'on the ground' and the concepts contained within the pack.

It is also hoped that teachers will see the pack not simply for 'doing about' the early iron industry but as a vehicle for developing those concepts and skills inherent in the kind of cross curricular work that can be developed around the pack.

The final plug . . . the pack is available now from RESOURCE.

Chris Parker
Kexborough Junior School
Kexborough, Barnsley

RESOURCE can be contacted at Exeter Road, off Coventry Grove, Doncaster DN2 4PY.

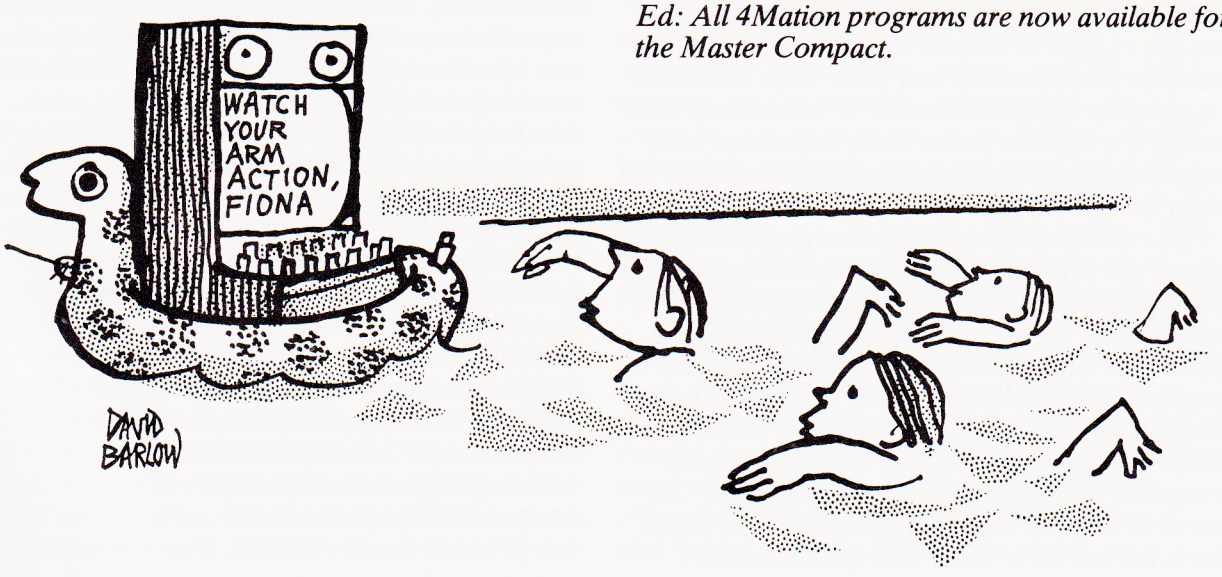
User port emulator for Master Compact

When Acorn asked RESOURCE to develop software and hardware materials for the new Master Compact we were only too willing to oblige. One drawback that affected our plans however, was the lack of a user port on the new machine. Consequently we needed to find a means to run our Beginner's Buggy. We designed an interface cable which exactly emulates the user port by connecting to the digital joystick port and the edge connector. Now it is possible to run concept keyboards, mice and all the other devices that many schools have already purchased.

The User Port Emulator costs £14.95 excluding VAT and is available from the address below.

Nick Evans
Project Co-ordinator, RESOURCE

Ed: All 4Mation programs are now available for the Master Compact.



Viewpoint
Computers are for trendies

In an article in one of the Sunday papers I read about a private school in London:

> 'Our trendy educationalists would be horrified to discover that the school does not possess a computer, a music room or a gymnasium. It does not even have its own sports fields.'

Parents who send their children to the school:

> 'want their children to be doctors or teachers. They want more pressure on them to work hard. They want less fringe subjects like Peace Studies and Craft Design Technology. At the end they want pieces of paper marked O- and A-level.'

Perhaps you ought to burn the subversive magazine which you are currently reading, throw away your micro, and blow the dust from the comprehension books.

I didn't go to a trendy progressive school. I had the basics rammed down by throat (and into every other anatomical orifice, it sometimes seemed). I got my bits of paper which told the world I'd been educated. I was a 'success'. Unfortunately it took me another fifteen years to find out that most of it had been a total waste of time. The first fifteen years (including my time at college) were spent learning how to fill in the blanks and regurgitate exciting little facts about the sex life of the amoeba and Henry VIII. Fine if you want to make a career out of completing tax returns and playing Trivial Pursuits. But I'm learning. If nothing else I'm learning that I *can* start a sentence with 'But' and not be zapped by a celestial red pen. I just wish someone had given me the chance to find out how to cope with other people, that someone had been more interested in me than in my test results. It would have been lovely if a teacher had actually found out what interested me or told me that there's more to life than doing well in exams.

The media is full of doom and gloom stories about parents emptying the State schools (and their piggy banks) to give their children a good, traditional, basic education. We keep hearing about the State schools which are failing their pupils. How do we know they are failing them? Because the exam results tell us so – which is about as relevant as using a driving test as a criterion of excellence in flower arranging. If I were to employ someone the last thing I would look for is a list of academic qualifications because O-level History, a BSc and a PhD tell me nothing very much. In fact it has often been my experience that the more qualifications a person has the more useless they are when it comes to actually doing things. (Just for the record, in case anyone thinks this is all sour grapes – I did get a handful of GCEs, a good Honours degree, and a gliding certificate!)

I met a teacher in Australia who, for more years than she cared to remember, had been promoting exciting happenings in her classroom. Her colleagues muttered to each other when, while their children were being prepared for the annual assessments, her class were 'having fun'. They muttered even more when her children's results were as good as their's. She showed me some beautiful poems written by children who failed all the tests. And the poets knew that their poems were far more valuable than all the tests put together. When the computer came along this lady took to it like a duck to water. Nothing changed in her classroom except that the computer adventure enhanced what had always been happening and the wordprocessor allowed those with dreadful handwriting to be as capable as everyone else.

If computers are thought to be the hallmark of trendy progressives then the traditionalists ought to be heartened by the research of Pauline Bleach of the Reading Centre in Reading. Her survey showed that the biggest contribution of the micro is in supporting traditional schooling. I wonder why this is. Could it be that computers are still the province of the techno brigade, the machine heads, the 16 bit orgasmics? I can't help thinking that while we still have educational computer centres, educational computer magazines and educational computing advisers we're going to have non-exciting applications of computers. I've visited many schools and, almost without exception, the most stimulating and exciting educational use of the micro which I've seen has been in the classrooms of non-computer-freaks.

The other day I heard about a school where children were not allowed to read a book until they could read all the words in their 'word tin'. I wonder if there are any schools where children are not allowed to touch the computer until they can press all the keys within 30 seconds and

explain the meaning of 'ASCII', 'EOR' and 'expansion bus'. (Worry not if you think they refer to a comedian, a vocal donkey and a Japanese mass transit device.)

Before you put pen to paper to complain that I'm talking gibberish you might like to answer this question from a certain reading comprehension test:

> Beyond the shadow of the ship
> I watched the water snakes:
> They moved in tracks of shining white,
> And when they reared, the elfish light
> Fell off in hoary flakes.
>
> Within the shadow of the ship
> I watched their rich attire:
> Blue, glossy green, and velvet black,
> They coiled and swam; and every track
> Was a flash of golden fire.

1. Beyond the shadow of the ship, the water snakes moving in the water looked

black as velvet/a glossy green/a brilliant blue/like a flash of golden fire/silver and sparkling?

I've been trying to answer it for weeks now. Does this mean I'm a failure?

Mike Matson
4Mation Educational Resources, Barnstaple

What will schools do when the computer bubble bursts?

David Smith
CITE (Centre for Evaluation of Information Technology in Education)
National Foundation for Educational Research (NFER)

A year or two ago high street shops could hardly sell computers fast enough. Suddenly everybody was a computer consultant. Salesmen in their droves abandoned double glazing and rushed into computers. At one point it must have seemed as if more people were selling computer hardware and software than were buying them. As Bryan Spielman (editor of the Longman's Microguides) wryly pointed out at the prestigious CAL 85 conference, there was scarcely a suburban street in Britain without its 'Software House'. As the importance of computers in coming to grips with post-industrial society (and the post-industrial Joneses!) was dinned into people up and down the land, anxious parents bought computers where once they would have bought encyclopaedias. And it worked – with the impressive result that market penetration of home computing equipment is greater in the UK than in any other Western country. Ask any group of children in almost any school in Britain who has access to a computer at home and a forest of hands will shoot up. But now the steam seems to have gone out of the market. More and more manufacturers of home computers are in serious financial difficulties. Acorn's Curry and Hauser have been reduced to comparative penury, and their company, far from growing into a great oak seems to have been nipped in the bud. Sinclair's fortunes have tumbled. And it isn't just in the UK: the US giants have also felt the pinch, with heads rolling in all directions. Atari, Apple and Commodore have all at various times hit the corporate panic button at home. What once looked like a hi-tech dream is fast becoming an economic nightmare. As Amstrad have demonstrated, however, there is still a market out there, but it is no longer a starry-eyed and uncritical market.

Nowhere is this more apparent than in the popular press. Not long ago, no journalist could go far wrong telling the world about the wonders of the new 'Information Technology'. It seemed at one time that you could hardly open a newspaper or magazine without coming across features on the benefits of computers. By contrast, a note of caution and disillusionment is becoming gradually more and more strident. Articles and television programmes are now beginning to call the whole 'silicon bubble' into question. More ominously, a similar tone of disillusionment is making itself felt in education.

Because of course, the high-street computer 'hype' had its effect in our schools. If the sudden mass availabilitiy of (relatively) cheap and powerful microcomputers in the late seventies caught the general public unprepared, it caught most of the education profession looking the other way. Whilst we argued over 'standards' and 'basic' (it had a different meaning, too!)

educational values, a vision of a new future hit us from behind - and many of us panicked. As the awful realities of the new economic order began to dawn on us, we sought salvation in technology. Those of us who had children at school brought pressure on schools to beg, borrow or otherwise procure ever more complex computers and peripherals. We bought raffle tickets for computers, we sold jumble for computers, we consumed incinerated sausages for computers.

The computer became the educational status symbol of the information era. Visitors who might once have been shown the school honours board were instead shown the computer (or, better still, computers). As a result of almost unprecedented public interest, teachers were faced with pressures to use computers which, when combined with forces within the profession to adapt to the needs of some notional 'Information Society' became almost impossible to resist.

There can be no doubt that schools – and children – benefited from the reflected glory of the computer boom. Here at last schools were represented as being involved in the front line of the technological revolution. Even the most mundane television news item about schools would be illustrated (however irrelevantly) by a shot of children pointing at a VDU. Children who had failed at everything else school had to offer suddenly found that here was something they could do. The sudden change in status from dunce to hi-tech whizz-kid transformed some young lives. And some teachers rocketed to the dizzy heights of senior management on the strength of their ability to write a dozen lines of (relatively) error-free BASIC.

All-in-all, the advent of the computer provided a much needed shot in the arm for an embattled and demoralised educational system. And there is no doubt that the home computing boom played an important role in this revitalisation. In many schools, the computer boom brought teachers and parents and pupils together in a common educational endeavour for the very first time. Many problems arose from this new relationship, but in many cases it narrowed the rift between schools and society at large.

But is it anything more than a temporary respite? Despite the implication that this wonderful new device was going to enhance your child's life chances, the home educational potential of the micro has not been realised. Talk to children and ask what their home computers are used for and most of them will answer in one word, 'Games'. Children aren't terribly enthusiastic about home-based computer aided learning. As one 12-year-old girl said to us 'I find I get enough education at school without taking it home'. Maths might well be what the micro was bought for, but *Pacman* is what it does best!

Now even this is dying. More and more children are tiring of zapping aliens, and parents are tiring of paying for the privilege of letting them do so. Hardware manufacturers are left with warehouses full of unsold computers. Only Alan Sugar seems to be mining the right vein, and even his success comes nowhere near the peak of the boom. Where once software houses (or even software bedrooms) proliferated, there are only disappointed would-be millionaires – and a few who made it. Go today into the sort of high street shops that last year were hard selling computers and software for all they were worth and the chances are that you won't be able to find the computer section. It's a pattern which has been repeated in every country touched by the home micro boom. Computers are in danger of joining video games, CB radio and the hula hoop in the inglorious flotsam of stale enthusiasms. In the USA, it is claimed, everyone is buying compact disc audio systems instead.

But what does all this mean for education? If the computer boom is past in the home, what will happen in schools? Well the first legacy of the great home computing explosion lies in children's expectations. To many children, the computer is no longer an exotic device to be regarded with awe, but an item of routine domestic consumer technology, to be discarded when sucked dry of play value. In a highly computerised world, this demystification must be all to the good - especially when contrasted with the technophobia which still affects large numbers of teachers. In this respect, the home computer boom has achieved in two or three years what decades of planned curriculum could hardly hope for.

But children's expectations been influenced in another way too. Among the children we have interviewed, the dominant view of the computer is as a games machine. And the relative cheapness of computer based 'arcade' games has meant that these children tend to be right up with the state-of-the-art as far as the style and presentation of these materials are concerned. The children are highly discerning and sophisticated. They expect their games to be complex, with extremely high standards of graphics and other features. And they expect no less of the materials they use in school. Quite reasonably, children derive aesthetic and technical standards from their cultural milieu, and they are in the main unimpressed by the 'string-and-chewing-gum' programs which unfortunately have all too often been typical of educational software.

And here is one of the dilemmas facing teachers. Children (or at least many of them)

regard software as being as ephemeral as last week's no 1 hit record. But schools can't do this. They can't throw away products costing anywhere up to £50 just because they don't have 93 colours and play Beethoven's Moonlight Sonata. And what about the hardware? Just now schools can scarcely afford books. What will happen when all those Beebs reach the end of their useful lives. And how long do they last? Education has been presented with a massive problem of resource management. It isn't just a question of physical resources either. Some teachers, a lot of them young and relatively inexperienced, rose far and fast on the crest of the computer wave. How do their colleagues, many of whom, whatever their qualifications and experience, have little prospect of promotion, regard this situation? The manpower management issues raised by the advent of the classroom micro may just highlight some of the deficiencies of the present educational career structure.

And there are important issues of curriculum design rising from the computing boom. The 'Challenge of the Chip' has caused drastic rejigging of what goes on in schools and colleges, but there is widespread suspicion that the new curriculum is as ossified and irrelevant as what it replaced - it's just that our lack of experience and understanding of computers limits our ability to ask probing questions. Despite all the inflated claims, the importance of the computer isn't by any means all 'hype'. The information-based post-industrial society will use computer power as the industrial revolution used steam power. The computer is not going to go away, even if the first flush of enthusiasm has faded. New technology offers all sorts of exciting possibilities for education. Simply to use the computer as technological 'elastoplast' to hold together a ramshackle curriculum would be tragic. We have the future to contend with, as well as the past. But if the wave of interest which got the first computers into schools has passed, how will schools ever catch up with developments outside? The average primary school today has two computers which may have to be used until they fall to pieces. And all the time, the gap is growing between what is available in schools and what is used outside.

Education is no longer seen as something which only happens at school. Even if most children do just play games on their computers, there is still a substantial minority for whom it is a real learning medium. A whole new channel of educational provision has been opened. Even if most home learning software is badly designed, and much of it is out of sympathy with the curriculum followed in British schools. All those word processors out there must be doing at least some good! However, 'serious' educationalists have given little attention to home learning. This could be a big mistake. Developments like cable 'narrowcasting' could combine with home computer aided learning to provide an educational system better than (or at least preferable to!) what conventional education offers, for example in vocational and pre-vocational education. If that were to happen, then a lot of people in education could find themselves out on a limb. Whatever happens, the centre of gravity of education has shifted away from the present formal system towards something which is only just beginning to reveal its shape.

So what happens now? After the brief period of frenetic (and chaotic) innovation, we are moving into a time of reflection and consolidation. But the world won't wait for us. The bubble may be somewhat smaller than it was, but life is still going on inside it. Our revolution may look pretty old hat by the time we have organised our ideas, and as we all know from past experience of class sets of antiquated textbooks, today's sliced bread is tomorrow's mouldy crumbs!

The fact is that the boom has taught us a lot about education that we should have known anyway. Work on computer games and what makes them fun carried out at Xerox Parc by Tom Malone in the early days of the micro boom underlined many of the things which educational psychologists had been saying for years. Perhaps it's worth taking note of something which Confucius (the real one, not the Charlie Chan one!) said:

> 'A man (sic!) is worthy of being a teacher who gets to know what is new by keeping fresh in his mind what he is already familiar with.'

Laying aside the absence of sex discrimination legislation in ancient China, there is a lesson here for the educational profession. And anyway, what about all those compact discs? The last revolution caught us by surprise. Perhaps we ought now to be reviewing the lessons of the micro boom in anticipation of the next but one home technology bandwagon – interactive video?

What shape the leading edge?

Heather Govier
Thames Polytechnic, Avery Hill Campus, London

In her editorial to *MICRO-SCOPE 18*, Senga Whiteman referred to the contrast between the hopes and ideals expressed by Richard Fothergill of MEP and the realities discovered by Pauline Bleach in her survey conducted in the summer of 1985.

Certainly, the interim report of the findings of this survey makes depressing reading for those of us who have spent the past six years trying to foster the appropriate uses of micros in primary schools. The vast majority of primary schools surveyed still had only one micro and a third of all schools were still using a cassette based system, having no disc drive. Only a quarter of the schools had printers and very few had any other peripherals such as concept keyboards or turtles.

Small wonder, given this hardware, that the schools were not using their micros to maximum advantage. In nearly half of all the schools the micro was in use for only 50 per cent of the time and the majority of teachers still lacked confidence in handling micros in the classroom.

As a consequence many were still mainly using small simple programs which have little relationship to the rest of the curriculum, such as spelling testers and anagram setters, indeed the figure of 23 per cent of schools using word processors was surprisingly high in the circumstances.

In the Spring term of 1986 MAPE sent out a questionnaire to ascertain what use MAPE members were making of their micros and the extent of continuity in the use of information technology across the primary–secondary transition. This survey was instigated by CALG, a group set up to look at continuity between sectors of the education system in the teaching and use of information technology. This group organised a seminar in the Spring Term of 1986 (papers from which have been published and sent to all primary schools) and have been involved in surveying not only MAPE members but also members of other organisations (with a more secondary base) such as MUSE and BCS. The results of their survey have been analysed by the staff of the Microelectronics Education Development Unit at Bishop Grosseteste College, Lincoln.

234 questionnaires were returned by MAPE members in time for analysis which is less than one tenth of the total MAPE membership. However, since these were the bulk of the forms returned they have been analysed separately from those of other organisations and so the findings reported below relate to MAPE members only. While it is true that they probably represent the keenest section of our membership (or perhaps those with the most to brag about!) it is nonetheless pleasing to note that the statistics produced by analysis of these returns differ substantially from Pauline Bleach's findings from the previous year.

Whatever the make of micro used in the school, the vast majority of MAPE respondents are using disc-based systems (see Fig. 1). Over a third have five or more micros in the school (although very few of these are networked) and over three-quarters have a printer.

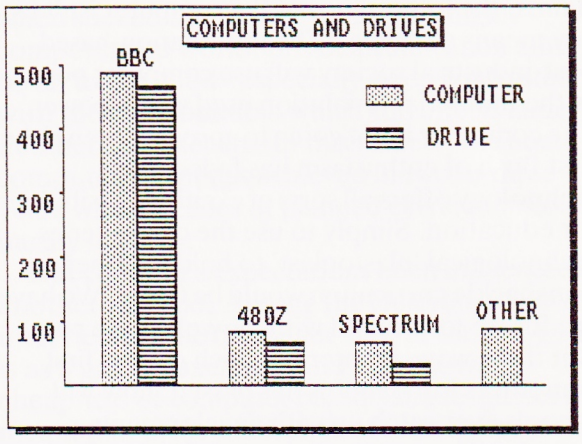


Fig. 1

Not only are MAPE members better resourced in terms of hardware, they also seem to have a more valuable stock of software, with over half having the basic software tools – LOGO, a word processor and a database – and making use of the type of software which integrates into the curriculum – adventure games, simulations and problem solving programs (see Fig. 2).

Although a disappointingly low number (26 per cent) have attended MAPE events, on the whole our members seem to be better trained to

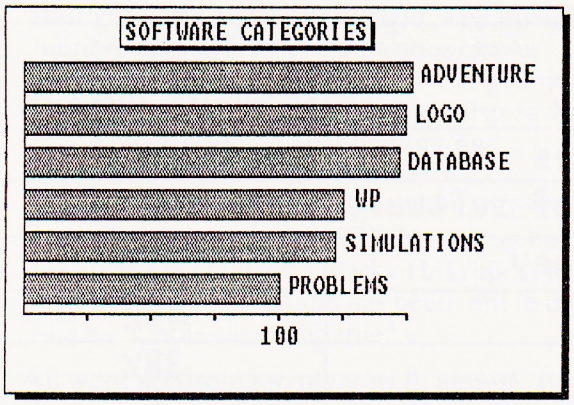


Fig.2

use the technology, 88 per cent having attended some form of micro based INSET, as opposed to 70 per cent from the Pauline Bleach survey, and most report that their LEA offers advice (92 per cent), maintenance (89 per cent) and insurance cover (60 per cent). However, it would appear that few LEAs provide security for the machines (21 per cent) or guidelines for use of the micro (33 per cent).

The lack of any clear LEA cross-phase policy may be one factor which influences the lack of continuity between primary and secondary schools. Many barriers to smooth transition were identified by respondents to the questionnaire; these include differences in philosophy and classroom management styles between primary and secondary schools as well as differences in the level of hardware available.

The main areas of micro-based work which most MAPE members would like to see continued into the secondary school involve the use of software tools, underlining the value placed by respondents on these powerful learning resources (see Fig. 3).

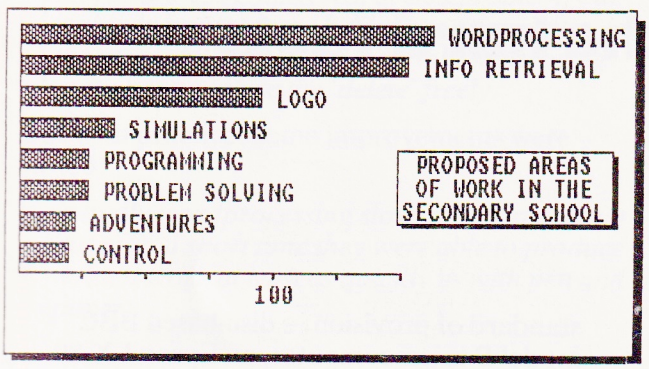


Fig.3

Comparisons between this survey of MAPE members and that of the broader sample of schools carried out by Pauline Bleach suggest that the MAPE membership is clearly at the leading edge of educational use of information technology. This is perhaps to be expected, given the aims and the nature of MAPE. However there is no room for complacency. Having the 'right' software or hardware is not the same thing as using it to optimal advantage. Moreover, the relatively small size of the sample may be producing a substantial bias. Wherever your school lies on the continuum of provision/usage it is surely now time (four years after the DoI scheme was launched) to reflect on the ways in which information technology is being used to enhance your curriculum.

One of the last products of the highly productive MEP Primary Project Team was a small booklet designed to assist schools in this process. Entitled *Time to Reflect*, the booklet poses a series of questions for teachers and heads to help them to analyse and evaluate their own use of micros within the classroom or school. This document was sent to all LEAs and may be freely distributed for use in schools. Contact your LEA adviser for a copy.

Reflection is rarely useful unless it is well informed. 64 per cent of schools in Pauline Bleach's survey felt that they needed more help and advice and eight specific areas were identified as priorities (see Fig. 4). Perhaps we, as MAPE members at the leading edge, should be asking ourselves three further questions which are not included in *Time to Reflect*:

1) To what extent do MAPE members still need help and advice and how can MAPE play a role in providing it?
2) Is there anything that MAPE members can do to support colleagues who are less confident, or to promote awareness of the most appropriate uses of the technology in primary schools?
3) What shape is the leading edge?

In many ways this is the most important question of all, although perhaps it needs some explanation. If information technology is to make a really valuable contribution to the curriculum of the future it must be available to all children and all teachers. A small band of technofreaks making exciting use of the school micro may be interesting to study and to read about but their impact will be minimal unless the groundswell of grass roots teachers (such as those surveyed by Pauline Bleach) follows in their wake.

If MAPE members are at the leading edge then we have a responsibility for determining the shape of that edge. Are we basically out on a limb – a limb that is liable to wither and die or perhaps just continue as an insignificant development

Specific Area	Number Needing Advice
'View before you buy' facilities	67%
Information about the quality of software	61%
Details regarding value for money	51%
Evaluations	44%
More County Support	38%
Information about types of software	36%
Information about sources of software	30%
More publications	11%

Fig. 4

within primary education, or are we more like the crest of a wave – a wave likely to carry the whole of the educational system along with it? If the answer is that information technology is still seen as being 'only for the experts' we, as the experts, must think very seriously about what we can do to change this image. Perhaps we did need the trail blazers to lead the way at first and it was inevitable that the leading edge should push way out in front, but the priority now must be to help the majority to catch up.

Come on then MAPE members, let's have some answers to these questions!

What shape is the leading edge?

What can we do to make it a shape which will sustain growth and form a firm foundation for the future?

References

MICRO-SCOPE 18 Editorial.

'The Use of Microcomputers in Primary Schools – Interim Report' (January 1986) – Pauline Bleach, Reading and Language Development Centre, School of Education, University of Reading.

The analysis of the CALG survey of MAPE members was carried out at the Microelectronics Education Development Unit, Bishop Grosseteste College, Lincoln.

'Time to Reflect' Anita Straker *et al.*, Microelectronics Education Programme – National Primary Project. CET 1985

Wordprocessing: the hard facts

Eric McDowell
Rolle College, Exmouth, Devon

You may recall a previous *MICRO-SCOPE* article[1] which outlined the plans for a wordprocessing project in the Exmouth area, funded by the SCDC and which also promised a further article when the project had been completed. This is it!

The project fell into three phases:

1. Schools and teacher-participants were selected, and given enough hardware and software to bring all the schools to a minimum standard of provision: a disc-based BBC model B microcomputer, an Epson LX-80 printer and the software packages *Prompt2*, *Telebook* and *Wordwise*[2]. A number of group sessions gave the teachers opportunities to get acquainted with the software package they were going to use, and to gain confidence in the use of the printer.
2. For a full term, the teachers made classroom use of the wordprocessing package which they had selected, in ways which they separately

thought to be most appropriate. The involvement of all children in the various classes (which ranged from early infant to top junior) was encouraged, but the teachers also each made more detailed observations and supplied samples of children's work.

3. Three members of the project committee compiled the report to SCDC from teachers' findings and children's work. This report has now been completed and has been sent to the SCDC. Copies are available[3].

All went according to plan: well, almost. Just as the project was starting, one school was burgled and lost, among other things, their computer. The disc drive was not taken, but thrown on the floor; the printer was left untouched. Replacement and repair took up half of the time allocated to phase two.

By and large, the comments and observations from the teachers were encouraging, although a clear set of problems also emerged. These were largely caused by inexperience with hardware or software. As one teacher wrote:

> *Many of the setbacks, which proved to be time-consuming, were occurring because the children were unfamiliar with the machine and because there were minor technical problems. These usually occurred with the printer.*

There were also problems caused by shortage of computer time (and this is clearly linked with the previous problem):

> *If I have the computer for one week in four, I forget, so Heaven help the children! At least one computer is permanently needed in each classroom.*

Fluent use of the keyboard was rare:

> *Keyboard geography has been a problem, but is slowly improving. H, who has a typewriter, is the most skilled. S is the least inhibited, being quite happy to use the 'delete' freely.*

but with practice, some improvements were noted:

> *Initially wordprocessing slowed children down but after a short time they were able to produce written work at least as quickly as with pen and paper.*

The wordprocessor certainly seemed to encourage children to write:

> *Nearly all the children felt that the machine was helping them to sort our their ideas in some way. Was this because they were reading what they had written more often than when using pen and paper? Was it because the fear of making mistakes was considerably reduced?*

and to be more self-critical:

> *Wordprocessing encouraged children to read and re-write their own work and to make use of the skills, knowledge and opinions of others.*

All the teachers on the project agreed that they would continue to use the wordprocessor in their classes. As one reported:

> *What I have seen so far is sufficient to make me feel it is worthwhile continuing with this work, despite the loss of other computer-based activities. I have no doubt that the time spent by the children was well spent.*

Encouraged by such responses, we plan to have some of the teachers, in small teams, compile one or two sets of guidelines which will then be circulated among schools in the area. That looks like the subject for article three!

References

1. McDowell, Eric: 'A close look at wordprocessing' *MICRO-SCOPE 15* (Summer 1985)
2. Software packages used in the project:
   a) *Prompt2* from MEP Bluefile holders (Special Needs Software)
   b) *Telebook* from 4Mation Educational Resources, Linden Lea, Rock Park, Barnstaple, Devon EX32 9AQ
   c) *Wordwise* from Computer Concepts Ltd, Gaddesden Place, Hemel Hempstead, Herts HP2 6EX. Tel 0442 63933 at about £32.
3. The 20-page report, entitled 'The use of wordprocessors in the primary classroom' is available from Eric McDowell, Computer Centre, Rolle College, Exmouth, Devon EX8 2AT (Tel 0395-265344 ext 235). Please enclose £1.20 to cover photocopying costs, and a stamped (18p) addressed A4 envelope.

Classroom ideas for using a wordprocessor

Reg Eyre
College of St Paul & St Mary, Cheltenham

Now that we all have access to wordprocessors, I wonder if you have tried the following ideas.

Pardon? Did you say you haven't got a wordprocessor? Maybe you don't have *Edword* or *Wordwise* but you must have *Writer* or *Prompt*. Both of these are freely available from your Educational Computing Adviser or local College of Education. *Writer* came from the MEP National Primary Project and it now has provision for using Concept Keyboard overlays. *Prompt* has always had this facility and it was part of the MEP Bluefile Software. *Edword, View, Wordwise* and *Pendown* are all chip-based (i.e. you have to open the micro case and plug in another chip) and cost from £30 upwards. With persuasion, your authority adviser might buy a licence for one of these, which would cost your school very much less.

To make the best use of a wordprocessor you will need access to a printer. Ideally the school should have its own but with all wordprocessors you will be able to save children's work and print it out later at the local Teachers' Centre or a nearby school which will let you use its printer.

Let us start with some old, but obvious, ideas. These are simple exercises to encourage familiarity with the hardware and software. Using the space bar and letters, make large letters from individual small letters. e.g.

```
   A                                3333333
  A A                                     3
 A   A              aaaa                  3
A     A                 a                 3
A     A              aaaaa                  3
AAAAAAA            a    a                  3
A     A            a    a            3     3
A     A             aaaaa              3333
```

This could lead on to the design of graphics characters, car number plates and a look at cheque book codes etc. It also allows the children to experiment with the usefulness of blank spaces and could show them the value of designing such things on graph paper, away from the keyboard.

If we extend this idea, we can design words using their letters and spaces to indicate their meaning;

```
s          dro          l  l
 l            p         l  l
  o           p         l  l
   p          e     parallel
    e         d         l  l
                       l  l


str..e...t....c.....h......e.......d
```

although the use of paint or collage might allow more scope for such exploration.

Finishing something that someone else has already started can be made interesting. For example, given the first line of a rhyme, each group of children is allowed to add only one more line in turn.

Alternatively, create a situation where each group of children can type only three lines. These lines can be on top, below or in between existing lines, as long as the whole text continues to make sense, and the text must be saved as the children leave the computer for the next group's turn. When each composition is printed out and displayed, the class can discuss how the story developed. This activity can be started in the same way as the verse completion exercise, or with a much longer initial frame of a story.

Those schools lucky enough to be members of MAPE, will already be using a program called *Front Page Extra*. This enables the children to write stories using a wordprocessor set up in newspaper format. These stories can be based on any situtation they happen to be studying. For example, the children could be split into groups to write newspapers giving opposing views on the Battle of Hastings.

Why not send in examples of your children's wordprocessed work for *MICROSCOPE* to publish?

First impressions of the computer at Tenterfield Nursery School

Janet M Broom
Headmistress, Tenterfield Nursery School, Welwyn, Herts

Our computer was delivered on 3 June during the latter half of last term and we have used it in our classroom on two days a week ever since.

Watching the children in these early days the overwhelming impression is of how much the children enjoy the computer. They are almost all fascinated by it, love to take a turn, and quickly get the hang of how it operates.

It is worth channelling so much enjoyment and enthusiasm to help children to develop new concepts, to stretch their powers of thinking and reasoning, and to build up their ability to concentrate. This means that care should be taken in the selection of software, in the way adults intervene and the way in which the computer is fitted into nursery school life.

We had a little boy who was rather wild and unable to settle to anything for long. He loved the computer and was able to concentrate for long periods working out how different programs worked. He very much wanted to be able to read numbers on the keyboard in order to be able to play some games like *10 green bottles* and *March*. He was so strongly motivated that he counted along the keyboard and taught himself to recognize the number symbols 1–9. His self-respect grew and his ability to concentrate passed on to other nursery activities.

A little girl who was so tense, she spoke very little to peers and adults, found security and relaxed when playing with the computer, because it is undemanding and you can take the programs at your own pace. If you don't solve a problem immediately there are unlimited chances to sort it out. Because she was so withdrawn we encouraged her to join in programs on the computer that needed two participants, such as a matching game. In that safe setting she was able to talk a little to her partner.

Problem solving features a lot in software for under-fives. Some use cursor keys to make men, boats, trains etc, travel in different directions. This requires a lot of thought for the child to work out whether men should go up, down, to the right or the left. Sometimes the child needs to count objects and tell the computer how many there are. Other programs seek to match colours, shapes or pictures. It is valuable to see how children set about this problem solving and adults can play a valuable part here in asking children questions which help them to understand the next step when they have got stuck.

In September we invited Mrs Wendy Scott to come and speak to our parents about her experiences with the computer in the Nursery class at Wall Hall College. She had come early into this field as her school was in a teachers training college and she had the resources of a computer department to lend machines and share expertise. She had found that the children defied much that was believed about their speed of development when you saw their achievements on the computer. They had been able to use a Turtle, (a remote controlled robot) and guide its movements from the keyboard (quite against expectations).

She related all the children's computer experience to the environment of the Nursery School where we seek to provide children with security, adventure, responsibility and recognition. The computer is just a part of the rich and varied provision we seek to give our children, but it certainly contains all four of these elements. It is a very secure activity which obeys rules consistently. It provides the challenge and excitement of an adventure, and the child can take on the responsibility of working through a program successfully and when he succeeds the program usually provides recognition in the form of a tune, a smiling face etc. Wendy had observed how children shared their understanding of the computer with each other and some good conversations had developed while the children worked through a program.

Mr Ian McEwen also attended the meeting. He is the retired Head of Tewin Water School for the Deaf and he was able to share his experiences of the value his children derived from computer experiences. As he now writes software he has a sensitivity to matching the teachers' needs with the programmers' skills.

The staff question the value of programs all the time with such questions as:

Does a program where all the child does is press the space bar to see a picture or a pattern unfold have any value at all?

Does it confuse children to see upper case letters on the keyboard and lower case letters on the screen?

If you teach children to regard the right-pointing arrow as clockwise and the left-pointing arrow as anti-clockwise when operating the Turtle do you confuse the children who aren't yet sure of left and right?

Children can operate a program without speaking at all. We are aiming at developing speech. Does this negate the value of the computer?

All these questions stretch us and need our serious thought if we are to give our children valuable experiences, and organise the computer's place in the classroom correctly. I would love to know what other nursery teachers are experiencing as they work with micros with the under-fives. Please write to the editor of *MICRO-SCOPE* and share your experiences.

MESU Primary Project news

Chris Robson
MESU

Software updates

A combination of *Writer* and *Prompt3*, which will include all the concept keyboard utilities, will be available through MESU after Easter.

ILECC are now distributing Nimbus versions of the following programs:

1) *Martello*
2) *Puff*
3) *The Lost Frog, Merlin, Make, Edit, Play Your Own Adventure*
4) *Mathematical Investigations*
5) *Number Games*

Contact ILECC at John Ruskin St, London SE5 0PQ.

Nimbus versions of *Ourfacts*, and *Expose* (which is a combination of *Infant Tray* and *Crackit*) will be available, on receipt of your disc, from our new address in Coventry:

MESU Primary Project,
Advanced Technology Building,
Science Park, University of Warwick,
Coventry CV4 7GZ.
Tel. 0203 4161994
Telecom Gold: 84:MEP030
TTNS: 01:TCD024

For further information contact either Chris Robson or André Wagstaff at the above address.

Spreadsheets in schools . . . ?

Stephen Heppell
Essex Institute of Higher Education

In UK schools much of the focus of software development has been on education specific programs. This is due partly to historical factors such as hardware limitations and partly to the fact that the application of task specific programs to the classroom environment most clearly fitted the perceived needs of classroom teachers and thus commanded their support and enthusiasm. A microcomputer or several microcomputers, together with such programs, often successfully brought, and indeed still brings, to the classroom, the advantages of interactivity, the presence of a neutral arbiter, the motivation of animation and other well documented benefits.

The microcomputer has been welcomed and integrated into both pedagogy and content in many UK classrooms and computer based learning may be identified in both process and product in the current learning environment. However, the aims and objectives met by such computer based learning do not typically focus directly on the acquisition of the thought processes and organisational skills necessary to exploit the computer as a tool in the working environment of commerce and industry, although the confidence to handle hardware and familiarity with the power of the computer are a valuable and intended spin-off.

Spreadsheets in the working environment of commerce and industry are not used by everyone, but are often the preserve of decision makers and decision informers. Similarly, in

COMPETITIONS EXTRA

At last your magazine has a name and a mascot, Mike Crow. Congratulations go to Mark Enticknap of Pennycross County Primary School, Plymouth, who has got 1987 off to a flying start by winning not one but *two* MAPE competitions in one go. Or perhaps to put it another way, killing two birds with one stone! Any way well well done Mark.

All the children at Pennycross School will receive Junior Mike Crow badges as well as the school prize and a special something for Mark. Details of how you can obtain your badges will be given in the next edition of Junior Mike Crow.

Coming a close second was Hazel Pluckrose from Manor Field County Primary School, Burgess Hill, West Sussex, whose design appears below.

We'd also like to say a big thank you and well done to all those who took part in our competitions; we're sorry but we can't give you all a prize – but we are announcing details of our first competition for 1987 and who 'nose' you might be lucky next time. So do keep on trying.

competitioncompetitioncompCOMPETITIONcompetitioncompetitioncom

MIKE CROW HAS LANDED

Who is he? Where did he come from? What does he get up to when not appearing on our pages? (e.g. Is it true he drinks at crow-bars?) Can you create a full page cartoon story of his adventures? **Cambridge University Press** have donated the prizes for this competition. They are *Image* (the very successful drawing program), *Hunt, Tile Mosaic* and *Doodle*.

Competition rules

1. *Schools can send in as many entries as they wish.*
2. *All entries MUST be drawn in BLACK felt-tip pen, and NO colours please.*
3. *All entries must have clearly written on them IN CAPITALS the name of your class, the name of your teacher, the name and address of your school, and the school's MAPE membership number (if known).*
4. *Sorry – NO ENTRIES CAN BE RETURNED.*
5. *Entries for the competition must arrive no later than 1st June 1987 and should be addressed to:*
   MAPE Competitions, Diane Wailing,
   Sylvan High School, Maberley Road, London SE19 2JL.

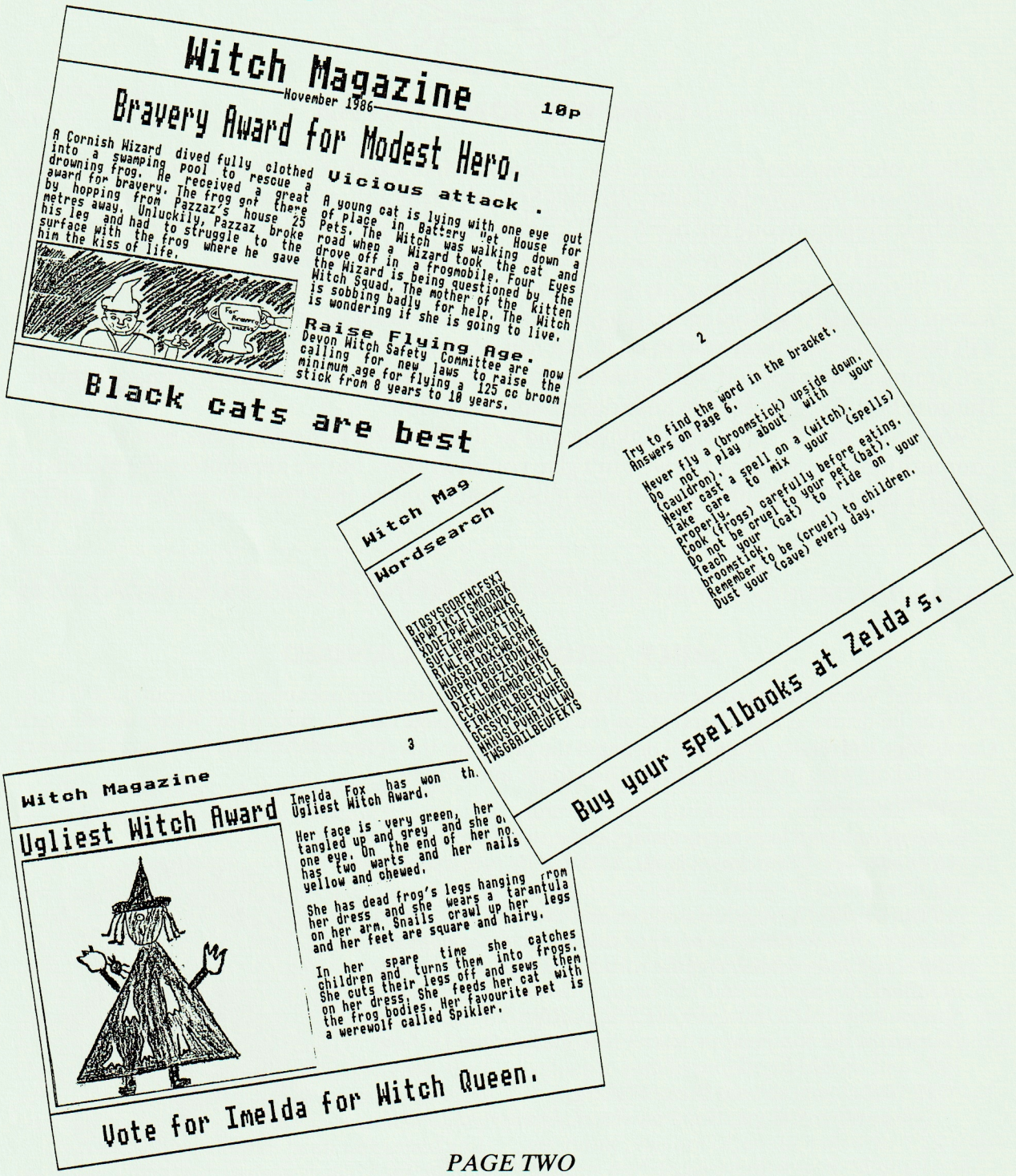
readallaboutitreadallaboFRONT PAGE EXTRAoutitreadallaboutitreadal

SUMMER '86

It must seem a very long time ago now that we asked you for entries to our 'Make a Front Page' competition. Well, thank you for waiting so patiently; we are pleased to announce the winners.

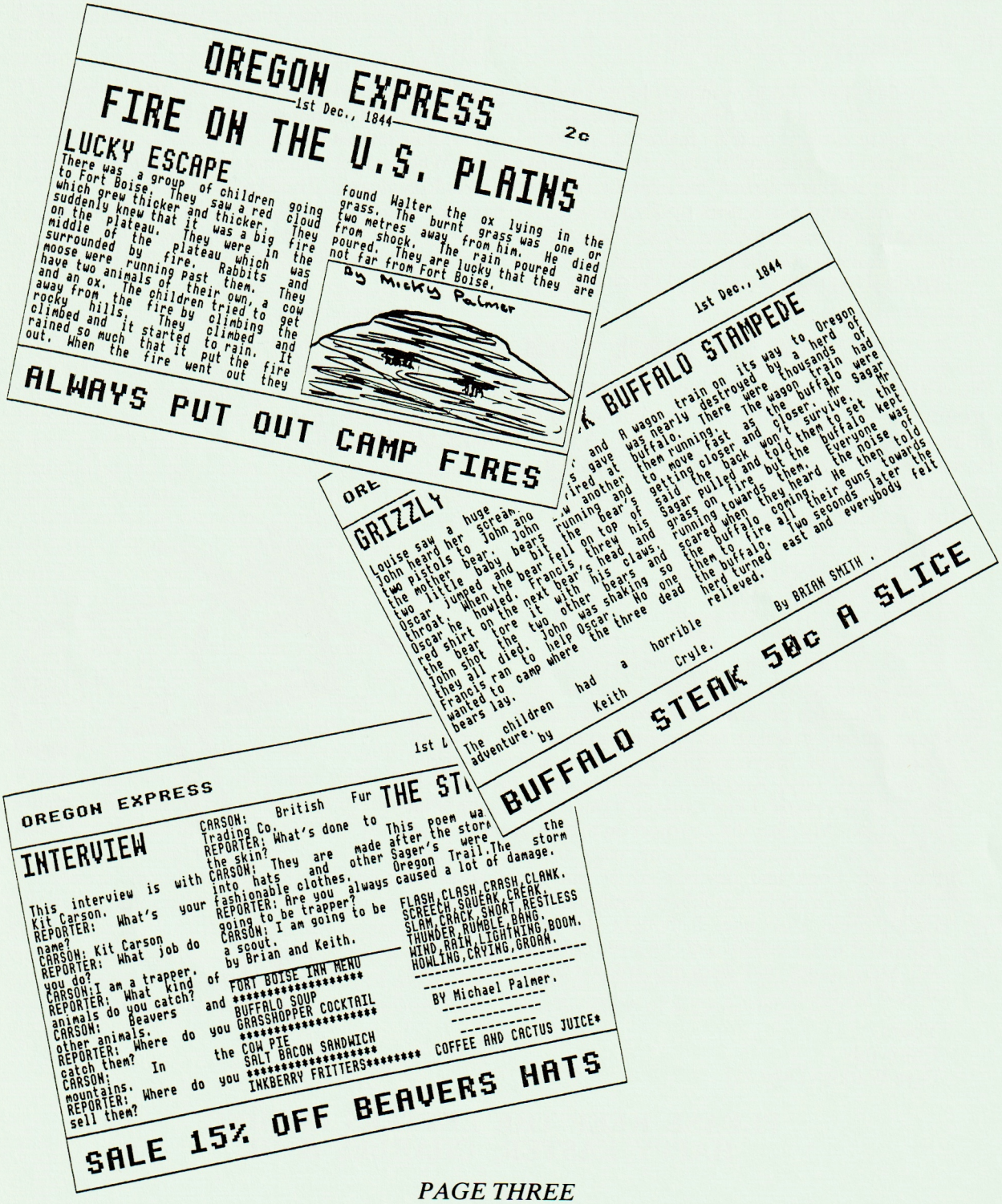
And the winners are CLASS 5, Glen Park Primary School, Glen Road, Plymton, Plymouth, Devon, with their inventive, amusing, even spellbinding 'Witch Magazine'. Your mystery prize should have reached you by the time you read this. Let us know what you think of it and perhaps send us a photo of yourselves for the next issue.

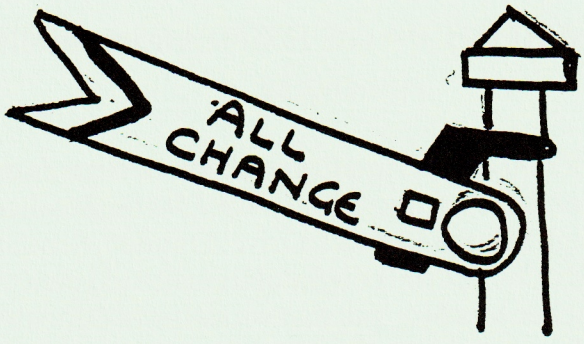
Because of our limited space we can only show you a small selection of their pages.



readallaboutitreadallaboFRONT PAGE EXTRAutitreadallaboutitreadal

We had over 50 entries for the *Front Page Extra* Competition and it was extremely hard to pick the winners and even harder to choose the runners-up. Our final choice was work done by three boys from Whitfield High School, Berwick Drive, Dundee, Scotland – Keith Cryle, Michael Palmer and Brian Smith. Our special congratulations go to you Keith, Michael and Brian as we know from your teacher Mrs Mungall that you all have difficulty hearing but that you really enjoyed reading 'Children of the Oregon Trail' and that's what gave you your idea for the winning entry.





For our last competition, in *MICRO-SCOPE 19*, we asked you to write and tell us about any changes that had happened to you or to someone you know. The entry we chose as our winner appealed to us because we are sure it is an experience that most of you must have shared with Anna Whittle, aged 10, of Raglan Junior School, Chepstow Road, Gwent, Wales.

> One day after school my mum told me I was going to the hair dressers. I asked her why but she only said she thought I would look nice with short hair. I told her that I did not want short hair. When we got there it was horrible. Inside the room it smelt of hair lotions and shampoo. When we had finished I looked awful but my mum said I looked nice. When we got home my sisters laughed at me but I did not care. In bed that night I thought how I would get teased. Then I realised that I was not silly and could easily stick up for my self. The next day was worse than I thought. All the boys laughed at me and only my friends did not laugh. I wished that I could rewind the world and before that day tell my mum that I did not want my hair cut. After a few weeks it was not as bad and people got used to me but I still hated the change.

MIKE'S MAIL BOX

We'd like to hear more from you, about your favourite programs, new programs you've tried out, things you've enjoyed doing – after all it is YOUR magazine. A MAPE badge and pen will be sent to the author of each letter published in Mike's Mail Box.

Our first letter is from Faye Watkins.

CLASS 4
RAGLAN JUNIOR SCHOOL
CHEPSTOW ROAD
RAGLAN
GWENT

Dear Junior MAPE,

My favourite program is *Front Page*. I like making up news stories, drawing the picture and making a name for the newspaper. It's very enjoyable and I would recommend it to everybody. Another of my favourite programs is *Flowers of Crystal*. I like working it out and deciding what to do next. My class did a project on this program, we had to write a poem about part one, copy and paint pictures from the book and describe, draw and paint what we thought a Grubbles Grabber, Pouncer, Blid and Fright Freak could look like. I thought the program on the computer was excellent and I enjoyed doing a project on it. All Mape tapes and discs are brilliant and every school should get them.

Yours
Enjoyably
Faye Watkins (Age 11)

PLEASE KEEP THE LETTERS COMING
HAPPY EASTER, CHARLES & DI

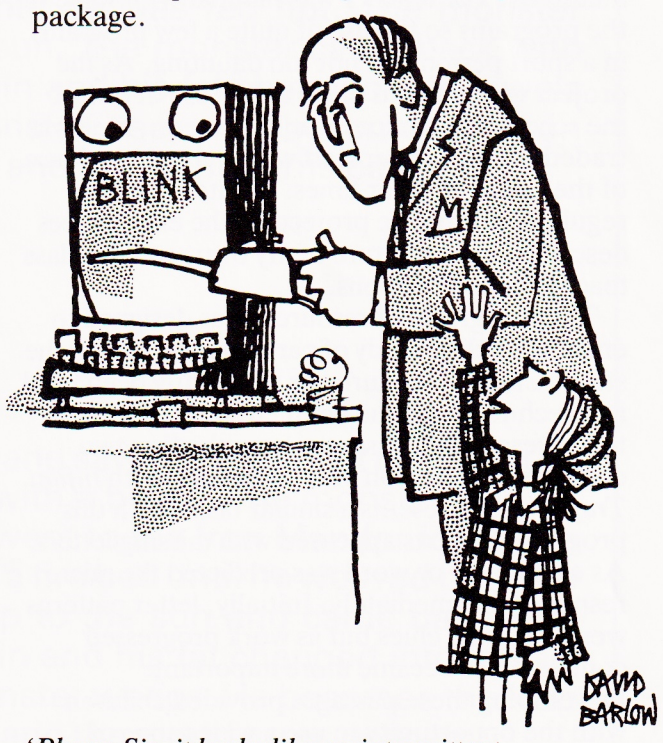
education the main use of spreadsheets is to be found in only one part of the population of students, at present the higher age groups; there is a fairly wide use of spreadsheets for applications like modelling in both macro and micro economics, where typical applications might be the analysis of coefficients of elasticity or predicting the behaviour of variables in a complex model of an industry. Another high use area has been dietary analysis with, for example, analyses of nutritional composition or the construction of an index of relative protein and fibre quality. The power of the spreadsheet as a learning tool lies in the rapid calculation offered, in conjunction with a clear representation of the relationship between tabular data. In addition spreadsheets offer the facility for the student to ask 'What if...?' and achieve an immediate, yet intelligent response.

These advantages closely relate to both the desire for increasing child centredness in the learning environment, and the perceived need for discovery learning to play a greater part in the education process. In addition, spreadsheets lend themselves to the prior generation of 'templates' within which students can work without the need to set up complex formats, linking and dimensioning, but within which formulae are overtly structured or student generated. Furthermore, the ease with which data can be linked arithmetically or algebraically enables the significance of increments to data tabulation to be perceived by the student at the moment of data entry. For example in a statistical analysis of student collected data the 'results' cell can be seen to respond to each new item or set of data.

The question 'At what age can spreadsheets be usefully introduced?' arises for two reasons: firstly, to take the earliest advantage of the concept of overt numerical relationship that characterises spreadsheets and secondly, to precondition thought processes to include the concept of utilising spreadsheets in the range of intellectual strategies rehearsed by the student in a problem solving situation.

There is considerable research literature on the importance of categorisation and ordering skills. The work of Bruner *et al* suggests that categorisation skills enable the reduction of environmental data into a hierarchy of classes by discrimination, abstraction, generalisation and organisation. In computer based learning this is typically seen as being realised through data retrieval programs, but the spreadsheet also has a role to play, particularly through the use of sorting and ordering procedures. Spreadsheets enable pupils to construct hypotheses and ask sensible questions that clearly distinguish between alternatives, which in part reflect the students abilitity to select and classify some features of the data.

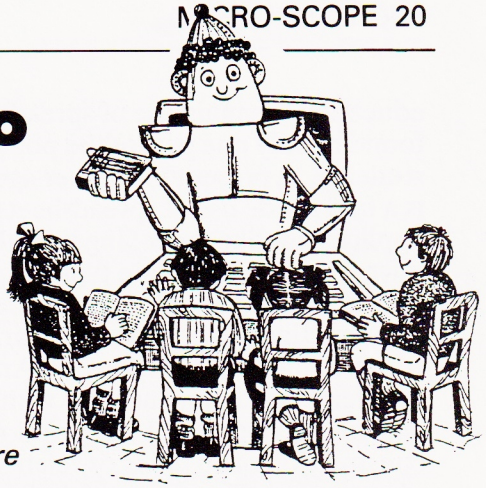
Finally there is the crucial question of home computers. The proportion of pupil/student households owning or having access to computers is higher than the proportion owning televisions in the mid 1960's yet there is no attempt to integrate this equipment in home based homework activities in the way that TV viewing has been. This is largely because of the variety of home equipment and the fact that most of the task specific program run only on BBC and RML (and Spectrum in a few cases) equipment. All home computers have cheap and effective spreadsheets (and word processors) available, allowing the bridge between educational and 'home' computing to be crossed if the focus is on method and process rather than on the specific details of Spreadsheet algebra with a particular package.



'Please Sir, it looks like an intermittent malfunction of a monostable chip.'

Literature and the micro in the primary school

The Iron Man resources



Dave Murray
Advisory Teacher for Micros in Primary Education, Lancashire

I was interested in using a novel to provide a stimulus for a class topic. At the same time I felt that the micro could be used to enhance language work and broaden the scope of associated work. Rather than use an adventure game, I wanted to stimulate problem solving with resources which immersed children in the language of an excellent book. I used a number of content-free programs to produce resources for Ted Hughes' ever popular 'The Iron Man'.

I was working as an advisory teacher when the idea developed. Fortunately a teacher, working in a large urban school, with a class of thirty children, ages seven to nine, offered to test the materials. The teacher was familiar with some of the programs so the use of quite a few programs in a short period was not too daunting. As the project was going to make heavy use of one of the school's two micros for half a term, time was traded off with other staff who wanted block use of the micro at other times. I visited the class regularly during the project, so the experiences described are a mixture of my own, and the class teacher's, observations.

The first group of resources was designed to encourage close study of particular texts from the story. Cloze procedure has frequently been used as a technique for the detailed study of a brief text. Descriptive passages from the first two chapters of 'The Iron Man' were used with *Infant Tray*[1] which presents a similar task. With this program the texts appeared with missing letters. As each letter or word was predicted the micro responded immediately. Initially, letter patterns were the main clues but as work progressed context clues became more important. Developing these passages provided children with the opportunity to use a wide range of reading skills. This detailed study of brief texts also encouraged informal consideration of the style of writing used. Children actually commented that the second part of 'The Iron Man' seemed to be written in a different way.

The rich language used to describe the Iron Man's feast in the scrap-metal yard was also picked for close study but this time in a different way. The micro offered the possibility of putting words and phrases into computer generated poems. *Wordplay*[2] allowed lists of selected nouns, verbs, adverbs and adjectives to be randomly linked as poetic phrases. A limited set of words was stored in advance. This list produced very repetitive and dull poetry. The children were then encouraged to search the text for interesting vocabulary. Their choices were included in the linked phrases that *Wordplay* produced and some were obviously nonsense, a feature which the children took delight in pointing out. However, the random nature of the program often produced unusual and highly descriptive combinations of words:

Soft chain lunched on joyfully,
Chewed, picked at,
Chain, old stove nibbled gently,
Steel pipe torn, girder carved,
Creaking giant handful swallowed

These poems were studied and ideas were noted before children wrote their own poems. The micro's ideas were not copied wholesale but many of the interesting combinations were used. The style that *Wordplay* presented was also successfully developed in the children's work.

Scrap

Greyish chain chewed in mid-air,
Rusty motorbike gobbled,
Brass knobs chewed at midday,
Rusty heap of chrome crumbs,
Liner demolished in his big mouth,
Chains eaten noisily,
Liner scoffed contentedly,
Black nails spat out,
Car mangled slowly,
Demolished like a toffee,
Tasty bedstead crushed noisily,
Motorbike scoffed quickly.

Children are often asked to write or dramatise stories involving characters or scenes from the literature they are studying. Some of them need basic ideas to start them off. *Storyline*[3] selected from lists of characters, scenes and events, to provide endless ideas for stories. The lists were amended to include the main characters of the

story which allowed the children to work on the characters with whom they had become familiar. The teacher encouraged the children to dramatise storylines like these:

> Two small girls beating a tin drum to call the Iron Man at Stonehenge.
> Two middle-aged women eating lunch with the Iron Man on an ocean liner.

Writer[4], a simple-to-use word processing program, was included as a writing tool. Some children were asked to tell the story through the Iron Man's eyes, others were asked to tell the story of the Space Bat Angel Dragon. They were reporters and sending back copy from Australia was expensive, so they had to report in a limited number of words and without missing any important details. The latter activity necessitated a lot of re-drafting which would have been tedious on paper. Using *Writer*, meant that children could continually revise their work to achieve a satisfying end result. One child's view of word processing hinted at one of the benefits. 'You don't write anything until it's finished.'

Typically the writing went through three stages. A first attempt, secondly editing out repetitions or non-essential words and finally checking spellings and improving presentation. The following pages illustrate the three stages of revision and editing the work went through.

First draft

Scientists were watching the stars and saw a black dot. The dot got bigger and bigger. It came out as a monster. It landed on Australia with a bump. The monster said he would lick up the world. The boy went to the Iron Man to think of an idea. The Iron Man looked thoughtful. He said he would have a challenge. He challenged the monster. He get on a fire bed until he was red hot. The monster watched him and flew up to the sun. The monster came back with holes in his wings. They do it again and his fat changed into jewels and fell out. The third time the monster weeps. He becomes the Iron Man's slave and sings every night and the world turns peaceful.

Second draft

Scientists were watching the stars and saw a black dot. It came out as a monster. It landed on Australia with a bump. The monster said he would lick up the world. Hogarth went to the Iron Man for ideas. He challenged the monster. He got on a fire bed until he was red hot. The monster watched him and flew up to the sun and came back with holes in his wings. They do it again and his fat changed into jewels and fell out. The third time the monster weeps. He becomes the Iron Man's slave and sings every night and the world turns peaceful.

Third and final draft

The Challenge

Scientists wre watching the stars and saw a black dot. It came out as a monster. It landed on Australia with a bump. The monster said he would lick up the world. Hogarth went to the Iron Man for ideas. He challenged the monster.

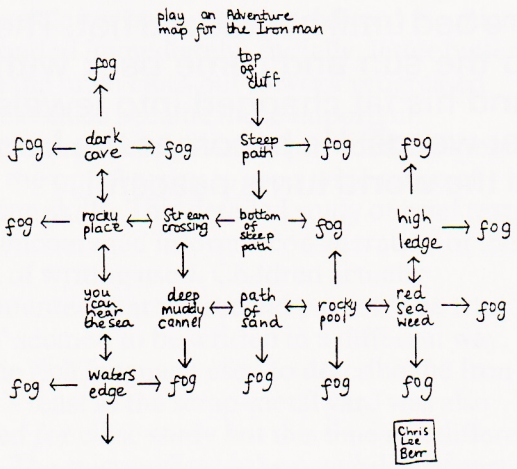
He got on a fire bed until he was red hot. The monster watched him and flew up to the sun and came back with holes in his wings. They do it again and his fat changed into jewels and fell out. The third time the monster weeps. He becomes the Iron Man's slave and sings every night and the world turns peaceful.

by Rachel Sharron Gavin

The other programs, which were used with 'The Iron Man', offered a variety of problem solving activities. Some continued to immerse children in the language of the book, whilst others provided problems free of any vocabulary. All the problems encouraged children to talk and some stimulated further writing.

Make Your Own Adventure[5] was used to provide a simple problem-solving situation which involved finding the parts of the Iron Man, after his fall from the cliffs, whilst avoiding certain hazards. Locations were areas of the cliff and the beach below. Each was described with vocabulary taken from the story wherever possible. The program scattered the missing objects and a few problems randomly amongst the locations.

Children searching the area were constantly threatened by a 'high tide' and the dreaded 'swirling fog'. Mapping activities and decision making role-play, were both involved in the rescues. The task also stimulated some excellent story writing. Here is one of the more formal attempts at mapping the locations.



Tracks[6], the branching story framework, was used to simulate the decision making which Hogarth faced in trying to save the Iron Man. Twenty 'pages' (the maximum number possible using *Tracks*) were linked, with up to three connections each. This made it possible to produce quite an intricate representation of the choices Hogarth faced and some possible outcomes of his decisions. Some paths, through the simulation, resulted in Hogarth saving the Iron Man and leading him to the scrap-yard. Others led to outcomes which didn't materialise in the book but were in keeping with the context. For instance, some choices meant the Iron Man disappearing back into the sea forever. This use of *Tracks* was intended to heighten children's empathy with the character of Hogarth and also develop some perception of 'what might have been.' The book's language was used wherever possible and the children thoroughly enjoyed this interactive form of reading.

A second application of *Tracks* was designed to present one of the book's recurring themes - the relationship between good and evil. The characters found in the book are not stereotyped 'goodies' and 'baddies'. The Iron Man himself is originally cast as a villain but later becomes the hero. The linked pages of *Tracks* were used to describe a character's actions and suggest possible judgements made about them. Depending on choices made, children were led either to consider the action from a different point of view, or to think about another event involving the same character. Final pages asked children to consider how people are judged by their actions in real life.

When I was listening to children using this material I was surprised by how little conflict there was between their ideas. Most choices were agreed with only limited discussion. Left to themselves, children didn't fully verbalise their reasons and seemed to be most concerned with

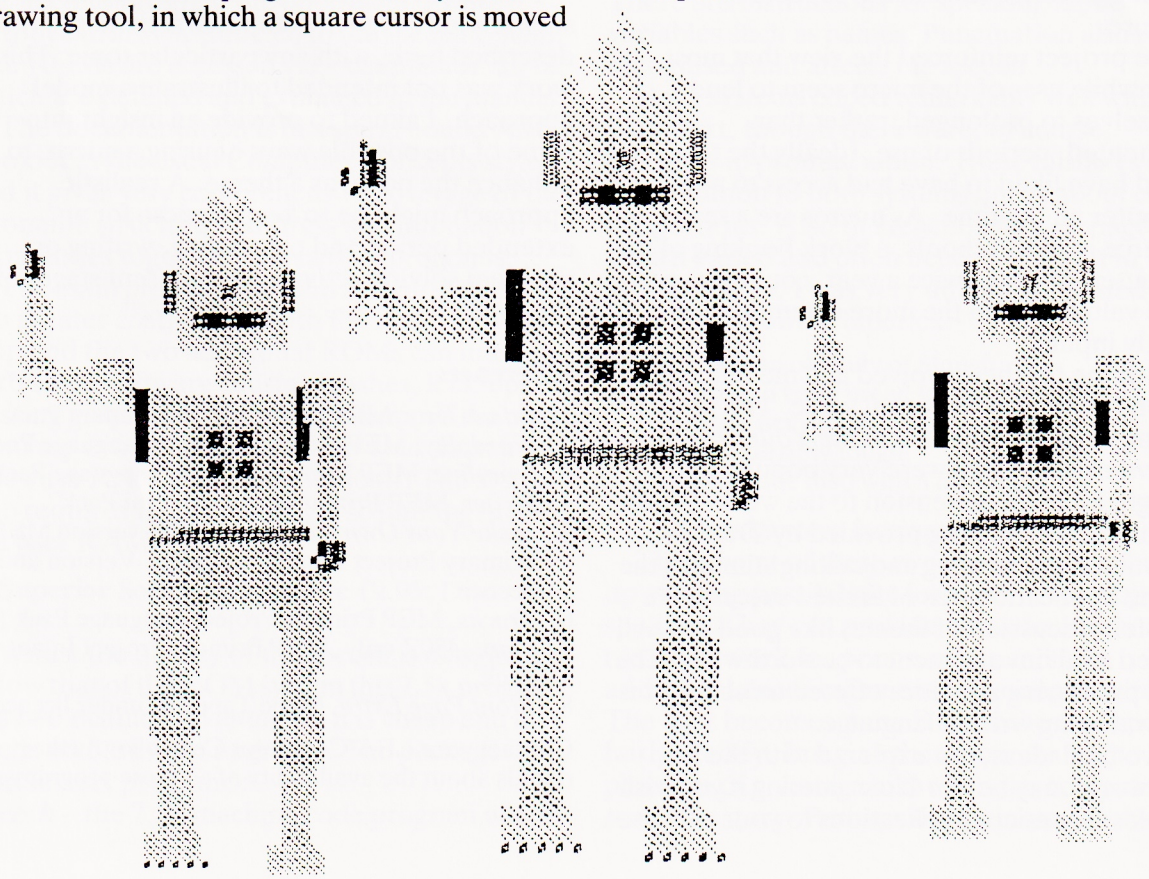
making the 'right' choices. However, encouraging the children to give reasons for their choices did lift the level of discussion. The following conversation was typical of those involving a contentious choice.

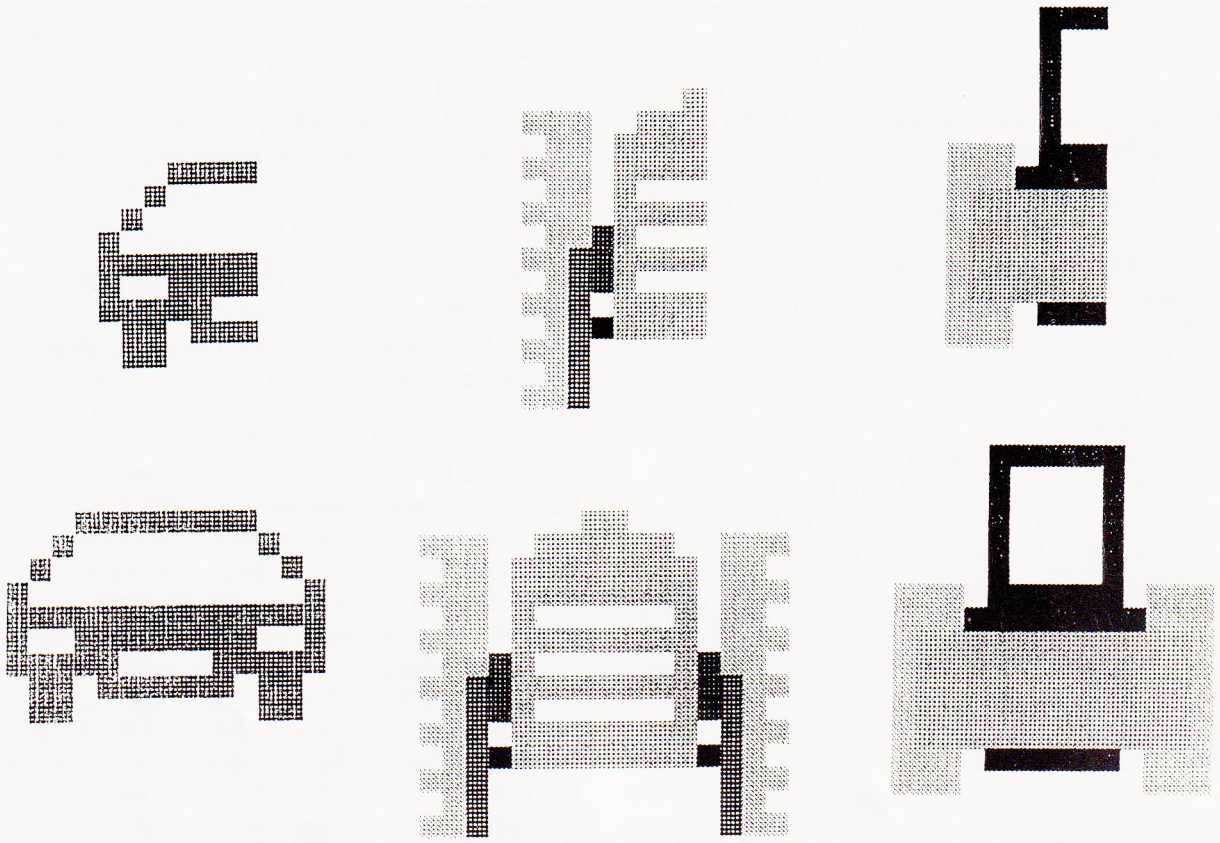
One, the space being was bad. Two, the space being
was good. Three, people didn't understand him.
People didn't...
Three.
No.
Yes, three.
No not yet, we've all got to decide.
They didn't understand him though.
In the story it says that people didn't understand him in the story...
It must be number one.
It must be number one because he must be bad because he wanted to join in with the battles.
Why did he?
He wanted to eat people.
Yes.
Yes but...
Number one then, let's put number one.
No because...
Number three...
People didn't understand the space being!
Right, number three.
Yes.

Paint[7] was the final program which was used with the Iron Man. This program is an easy to use drawing tool, in which a square cursor is moved around the screen, leaving a clone behind at every move. Both colour and size of square can be changed so quite intricate drawings are possible. An unusual feature is the possibility of teaching the computer sequences which can be combined to produce more complex designs. This could be seen as a preliminary to writing turtle graphics procedures.

I drew the Iron Man's legs, arms, body and head as separate sequences. The challenge for the children was then to put them together. The task wasn't simple as, for example, I began one arm at the elbow, the other at the hand. This activity proved a real challenge for the children. They had to try out the sequences carefully before they could put the Iron Man back together in a recognisable form. Some were frustrated by their initial lack of success and the whole idea of a problem solving activity, as a worthwhile process, had to be emphasised.

A symmetry problem, related to the story, was designed for less able children. Again using sequences, which could be saved, I drew half eaten vehicles for the children to complete. In the classroom, children employed various strategies to repair the damage, some estimated the number of squares whilst others moved the cursor back over the design and counted before adding the missing half. On completing the designs many children went on to embelish them with details of their own. One group even designed their own half-eaten objects for others to repair.





The use of the micro, enhanced the Iron Man topic, through problem solving activities, stimuli for careful study for text and by providing new opportunities and techniques for creative writing. All of which gave the children a deeper understanding of the book, a wide range of learning experiences and a great deal of pleasure.

The project reinforced the view that most worthwhile uses of the micro seem to lend themselves to prolonged, rather than fragmented, periods of use. Ideally the teacher would have liked to have had access to a computer all the time. As micros are a scarce resource in most schools, a block booking of the computer, once or twice a year, could prove to more valuable than the more common once weekly input.

Both the teacher involved and me felt that the use of *Tray* texts was of real value. The problem solving tasks provided by *Make Your Own Adventure* and *Paint* were very popular and brought an extra dimension to the work. Whilst the interactive reading provided by *Tracks* was also valued as a reading and talking stimulus, the second application was of limited success. We both felt discussion of themes like good and evil needed adult involvement to be worthwhile. The word processing activities offered most in terms of developing written language.

Two final ideas, not explored with the Iron Man work, may be worth considering if you wish to link some micro applications to your own use of the novel. Firstly, using *Front Page Extra* to write news reports of the story would be an interesting task and secondly, the possibility of children themselves using adventure designers to represent part of a novel should also be worth considering.

I wouldn't suggest that anyone tried to use such a wide range of computer activities, as are described here, with any particular topic. This work was not intended to illustrate a model approach. I aimed to provide an insight into some of the possible ways of using a micro, to enhance the novel as a theme. A realistic approach might be to keep a micro for an extended period and try reading, writing or problem solving activities at different stages of the topic.

References

1. *Infant Tray*, MEP Primary Project Infant Pack
2. *Wordplay*, MEP Primary Project Language Pack
3. *Storyline*, MEP Primary Project Language Pack
4. *Writer*, MEP Primary Project Infant Pack
5. *Make Your Own Adventure*, 480Z version MEP Primary Project Infant Pack, BBC Version under licence
6. *Tracks*, MEP Primary Project Language Pack
7. *Paint*, 480Z only, MEP Primary Project Infant Pack
8. *Front Page Extra*, Mape Tape III, under licence.

Contact your LEA Computer Centre for further details about the availability of all these programs.

Review

Speech on the BBC Micro

A look at two rival systems

Recently I have been able to compare two speech systems for the BBC Model B. One is from Computer Concepts and dramatically extends the official Acorn speech system. The other, which is perhaps the more exciting, is from Superior Software and works in the standard machine, requiring no hardware upgrades. Both systems use phonemes to enable any word to be built up, thus overcoming the limited vocabulary of the official Acorn system.

1. **Computer Concepts.** £33.50 for two ROMS. (Acorn Speech ROM £10 extra if required).

This is a ROM based system, the package comprising two ROMs and instruction manual. The Acorn Speech ROM is required and can be supplied as an extra if necessary. The ROM called SPEECH gives a phoneme-built, limitless vocabulary to the Acorn chip and can produce quite clear speech. It even has a 'SING' command! There are five main commands. The addition of the text to speech (TTS) ROM enables the system to read text, such as *Wordwise* files or screen output, directly without the need to program the phonemes. Printer output can also be directed to the speech system. The ROMs are accessed via * commands, all of which are detailed and explained in the manual.

The documentation is in a spiral bound A5 booklet in the usual Computer Concepts style and it gives very comprehensive coverage of the phoneme structure and stress and intonation capabilities together with sample programs.

The main problem with this system, other than the greater cost, is that both the Acorn speech chip and the two additional ROMs can interfere with some software causing crashes, lock-ups or missing graphics. (I have had to remove the chips from my own machine and now load them into sideways RAM when I want them.) The system also requires 1k of workspace, so limiting further the user RAM.

2. **Superior Software.** Cassette £9.95; Disc £11.95

Whilst the quality of the speech is marginally below that of the ROM system this 7.5k program has two distinct advantages - it is cheap and it needs no hardware upgrades. The package contains six programs:–

Speech – the 7.5k machine code program which actually does the talking (via the normal sound chip).

Demo – a demonstration of the features of *Speech.*

Spell – a simple spelling test where the questions are spoken. The words can be altered by the teacher.

Sayfile – which enables files for *Wordwise, View* etc. to be read out.

Relocate – enabling *Speech*, normally residing between &5500 and &72FF to be moved to a different location.

SP8000 – an 8k version of *Speech* to be loaded into sideways RAM (or blown onto EPROM) and called from there.

The instructions are in the form normally supplied with games software. The 49 phonemes are listed with examples together with commands and syntax. The main command is *SAY (text) though *SPEAK (phoneme-text) enables more accurate speech. The pitch may be raised or lowered eg for male or female voices using *PITCH. *Speech* can be retained even over CTRL-BREAK via the *KEEP command. There are instructions for speaking input variables such as names. Punctuation also is recognised and affects the speech.

Both systems coped remarkably well with plain text, though there were, of course, mistakes in pronunciation. These mistakes were not common to both systems but of about equal proportions. Also the reaction to a carriage return varied and often needed to be set in the ROM system. I was very unkind and tested both with the following limerick:-

There was an old lady of Slough,
Who used to bake bread for the borough.
But alas her dough
Was so terribly tough
That everyone died with a hic-cough

The results were fascinating!

The advent of these two speech systems opens up exciting possibilities for work in reading and spelling. They can provide opportunities for remedial work for poor readers and give additional encouragement for young children. The user becomes 'tuned' to synthesised speech fairly readily. Imagine the reaction and the pleasure of a young child when the computer reads his story. Perhaps the main snag is that to

get accurate pronunciation some programming is necessary, but anyone who can handle a word processor with its commands can certainly manage both of these speech systems. For classroom use the computer may benefit from additional amplification when used with a class or larger group and headphones would probably help an individual user.

Although the ROM system gives slightly clearer speech the cost and versatility of the disc system, plus the fact that it will not interfere with other software because it is non-resident, makes the Superior Software package the slightly better buy. However, if a micro speech program is established in a school, it would pay to upgrade one machine using the ROM system and accept that there will be some software that it cannot run.

Mike Compson
Sandwell

Book review

Author: Christopher Schenk
Title: **Hands On: Hands Off, A Computer Activity book for schools**
Publisher: A & C Black, 35 Bedford Row, London, WC1R 4JH
Price: £7.95
ISBN: 0-7136-2707-7

The introduction to Christopher Schenk's *Hands On: Hands Off* states that it is intended for teachers who know the difference between 'button pressing zombies and an alert and interested child' and it is not intended for 'computer experts'. It is on this basis that *Hands On: Hands Off* must be judged, as this introductory statement is likely to influence potential purchasers of the book and whether or not they are likely to think their money was well spent.

This book comes in a spiral bound A4 format which will be familiar to those teachers who are cursed (?) with having to play the piano in assembly, and while the double A4 format may sit well on a piano, a computer trolley carrying a micro, disc drive, monitor and printer is another matter.

The book is divided into three sections:

1) The Computer as a Versatile Resource
2) Turtle Geometry and LOGO
3) Handling Information

A wide range to cover in 119 pages.

In Section 1 the hands on experience is provided by series of simple BASIC programs which can be typed in to illustrate various capabilities of computers. These are accompanied by explanations of BASIC functions such as A = A + 3, and the difference between 6 * 3 + 1 and 6 +1 * 3. No explanation of algebraïc logic is given. The programs seem to be designed for the BBC computer yet the BASIC keyword LET is used all the time, as in LET A = 2, how many schools still use Commodore Pets I wonder? All in all, I did not find the programming aspects of Section 1 particularly inspiring. The hands off activities were far better and included, for example curved stitching with links suggested to programs such as *Polygon*. I was somewhat disturbed to read that *Tray* should be introduced as a whole class activity and could not help but wonder if the author had ever tried getting 35 children around one 14" monitor such that they could all read the text on the screen. In addition, the suggestion that teachers should alter DATA lines in the program *Storyline* (page 40) seemed a certain invitation to disaster.

The section on word processing started well with some sound advice for teachers contemplating using such a system in their classroom. It continued with a clear description of the usual facilities offered by word processors. However the hands on section on page 46 calmly suggests that teletext editor programs such as *Edfax* can be used to create illustrated stories. Although this statement is perfectly true, teletext editors are the last programs I would throw at the computer novice. The second half of this section deals with adventures and simulations. The example programs quoted are of good quality and the discussion is informative.

Section 2: Turtle Geometry and LOGO gives a good introduction with the difficulties of LOGO beyond Turtle Graphics being pointed out. However, the recommended approach is entirely discovery-based and one wonders why the more workcard based approach of Christopher Robinson is not mentioned, and neither is the work of Edinburgh University described. On page 54 the insidious notion of de-planning raised its ugly head. I thought that the proponents of LOGO saw it as a way of developing problem solving skills which can be used in many situations. De-planning does not solve problems, it merely encourages the child to pretend they don't exist. While this is

fine at a computer keyboard in a nice, friendly classroom, life in the big, bad world is very different and this is what we are supposed to be preparing children for. (*Ed: de-planning can be seen if a child decides that his house, consisting of a square with a triangle on top, could really be the back view of an envelope, when the triangle appears in the 'wrong' place.*)

The suggested scheme for introducing LOGO to children is sound although moving from FORWARD 10 to recursive procedures in 24 pages of low density text seems ambitious to put it mildly. In addition, I would have thought a progression from BigTrak to floor turtle to screen turtle more logical than the progression which the book seems to imply. However, the suggestion for writing a one key LOGO for younger children is commendable.

In general the hands off activities are well thought out and would fit easily into any primary classroom and enhance the hands on experience.

Section 3 deals with Handling Information i.e. databases and begins by pointing out the human fallibility factor: garbage in, garbage out! The hands off activities, for example, using Venn diagrams to illustrate AND/OR choices, are commendable and the suggested program for the hands on activities, *Datashow*, equally good. Why then does Christopher Schenk, after this good start, proceed to use *Factfile*, with its limited facilities and non-standard terminology, to illustrate data processing. Programs such as *Grass, Quest* and *Inform* are mentioned in passing, why not use one of these? The activities suggested are based around local studies and again would fit into most primary curricula.

The book concludes with a list of the programs mentioned and the names and addresses of publishers, an activity index and an index to the book.

Hands On: Hands Off is an exercise in cramming a gallon into a pint pot while trying to be all things to all men, surely an impossible task. Despite this it does contain many useful ideas, particularly in the hands off sections and would be a worthwhile investment for any school with a spare £7.95.

Tony Smith
Teacher Fellow,
West London Institute of Higher Education

Program details

Storyline	MEP Primary Project Language Pack
Polygon	MUSE
Edfax	TECMEDIA
Tray	MEP Primary Project Language Pack
Datashow	MEP Primary Project Maths Pack
Factfile	CUP;
Grass	Newman College
Quest	AUCBE
Inform	Notts. Lea

Software reviews

Title: **The Mupados Recorder Tutor**
Publisher: AB European Marketing, Wharfdale Road, Pentwyn, Cardiff
Machine: Acorn BBC (disc)
Price: Mupados Recorder System £31;
Duet data disc and documentation £10;
Ensemble disc and documentation £12

The *Mupados Recorder Tutor* provides a graded series of exercises and melodies designed to assist in teaching the descant recorder from the beginning. The availability of a teacher is assumed to be essential, however. Notes are sounded, shown on the stave, and the fingering displayed graphically. Tunes are displayed in full musical notation and played by the computer together with optional aids such as a metronome and a 'bouncing ball'. Music can be played in part or whole, at slower (or faster) tempo, or the notation can be viewed without sound. New bars appear on screen in such a way that there is plenty of time before they are due to be played; the bars currently being played are not disturbed; the user is not subjected to the irritating movement caused by scrolling; the eye is able to continually read from top to bottom as if from a book. The micro's sound imitates the correct tonguing required of the player, and is very recorder-like in quality.

In addition, most exercises are available twice on an accompanying audio tape. The first recording features recorder with accompaniment; the second recording includes accompaniment only. The backings are of excellent quality and imagination, using mostly electronic devices, and really transform the playing of even the simplest exercise containing only one pitch into a performance to which one is eager to contribute. Many different styles of music are represented, mainly with a modern emphasis: some of them employ quite tricky off-beat rhythms. The screen display of notation is intended to be used with the audio-tape sound, at which time the micro's sound is turned off. All

the lessons are thoroughly documented in a ring-binder.

Perhaps the only way this approach could be improved would be firstly to add a video disc for completely authentic sound and sight of a recorder and its fingering, and secondly to program the computer to know whether or not the right pitch is being played by the pupils. The latter is possible as is demonstrated by *Music Master* from University College, Cardiff which allows the connection of the recorder directly to the micro via a microphone. However, this package is different in content and aim to the Mupados pack.

There are one or two minor drawbacks. Some adjustments of the screen speed is needed occasionally to match it to the tempo of the audio tape. The 'view notes' option shows notes which are not used in the accompanying pieces, and therefore do not yet need to be learnt - it should only show (according to the documentation) the new notes needed for that particular lesson.

The items for review included more than the recorder tutor disc and documentation. There was also a duet data disc, ensemble disc and documentation. The former contains recorder duet parts for many of the lessons. These pieces can be displayed and learnt in the same way as the original parts, by changing the disc in the drive to load the separate data. They are intended to provide practice which contrasts in difficulty with the main melody part. These parts are not heard on the audio tape. The ensemble disc contains parts for many of the original melodies arranged for Bb instruments, F instruments, Eb instruments, and bass clef instruments. The sound of these instruments is not reproduced by the computer, the original recorder sound being used throughout. The parts can be played by the pupils together in any combination or separately, with or without the original audio tape.

A condensed version of the recorder pack is available as part of *Mupado's Micro-Maestro* series, which provides four units based on the principles of the original recorder tutor. Those packs are for keyboards, concert pitch instruments, Bb (plus Eb and F) instruments, and the recorder.

Peter Graystone
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Silverdale, Newcastle-under-Lyme

Title: **Picpop**
Publisher: Addison Wesley, Finchampstead Road, Wokingham, Berkshire RG11 2NZ
Machine: Acorn BBC B (disc and cassette)
Price: £15.95

This package comprises a disc or cassette and two booklets, the user guide and a puzzle book. In the user guide, *Picpop* is described as an educational toy which enables the user to create pictures, the number and variety of which is apparently only limited by the user's imagination and ingenuity! However, this is not entirely true as there are a maximum number of shapes which can be used to form a picture, after which point the picture cannot be saved due to insufficient computer memory. The educational claims made for *Picpop* seem to be related to its potential to generate thinking about mathematical concepts, and more specifically the geometrical concepts concerned with the nature of shape and space.

The documentation states that 'You can enjoy *Picpop* from eight to eighty.' Indeed, in classroom trials I have found that children of six years old enjoy this program and learn very quickly how to operate it.

Picpop actually consists of two programs. *Picpop 1* allows the user to choose from a screen display of six different shapes which can be translated, rotated, reflected, enlarged and shrunk. In addition, there is a further shape available to the user although it is not shown on the screen. The program is simple to operate: a shape is selected by pressing the appropriate number and is then manipulated until it is as the user desires. Then the user has the choice of colouring it in with one of eight colours. The keys which the user has to press to manipulate a shape have been well thought out: for instance, the < key results in enlargement and the > key in shrinking. Such forethought on the part of the designer has no doubt added to the educational use of the program. However, other choices have been made by the designers and programmers which may or may not be regarded as correct from an educational point of view. For instance, allowing a choice of eight colours has resulted in poorer graphical quality, i.e. straight lines become zig-zaggy when rotated. Whether such an occurrence is congruent with a piece of software promoted as being capable of 'sowing the seeds of some important ideas in mathematics' is surely questionable. Perhaps there might be a case for building a choice into the software whereby the user could opt for better graphical quality and less choice of colour.

Picpop 2 is exactly the same as *Picpop 1* but there are three extra shapes which can be accessed, a pentagon, a pentagram (a five-pointed star), and a straight line segment, and

instead of the enlarging and shrinking options there are stretching and compressing choices.

In the user guide there is a section devoted to '*Picpop* and Mathematics'. Unfortunately, this section is written in such a way as to discourage all but those already converted to mathematics. The purpose of this section would seem to be to explain to the inexperienced mathematician, mathematical terms concerned with geometry, presumably in the hope that he or she will be inspired to investigate geometrical phenomena. However, with terms like 'plane isometries' and 'identity transformation' scattered through the text there would seem to be little hope of this section motivating the mathematically insecure. The *Picpop* puzzle book is, in contrast, easy to understand. It shows patterns created on *Picpop* and then challenges the user to reproduce the pattern with the least number of goes. In order to find out how many goes a picture took, the user can simply press 'R' for replay and then count the number of bleeps.

Picpop in the classroom

One problem which my class experienced with *Picpop* was a 'programming type problem', i.e. if the shift lock light is on when the choice of colour is being made, the computer does not respond to the choice of the user. This either needs to be rectified in the programming or else mentioned in the documentation, as such 'minor' problems can discourage and alienate the inexperienced user. *Picpop* was trialled with six- and eight-year-old children. The younger children used the program to generate their own pictures rather than to solve puzzles. The children worked on the program in pairs. One pair decided to draw a bridge. First of all they drew in the supports at either end and then tried to position the intermediate section. This proved to be quite difficult for them as the line had to be rotated very slightly. In order to achieve this result, very fine touch is needed, as the degree of rotation is determined by the length of time the key is pressed. After approximately two minutes of trying, one child decided to adopt a different tactic, namely to make the section horizontal again and shrink it so that the bridge was composed of a series of stepped sections rather than one long one. Hence the original idea was adherred to but its form was slightly changed. Other children exhibited what has been termed 'deplanning' – when they were finding difficulties in accomplishing their design, they changed it in favour of a simpler design. While the children were using the program, their conversation was chiefly concerned with size: make it bigger smaller, it's going to be too big, it isn't going to fit; and with position: down a bit, too much, across. Only rarely did they use vocabulary related to rotation, e.g. keep turning. Rather than calling the shapes by their mathematical names, they referred to them by their number as this was quicker and also they were unfamiliar with the names of shapes four and five. Whilst it was obvious that the children thoroughly enjoyed using this program, the extent to which they engaged in thinking about mathematical ideas was somewhat questionable. Personally, I would have thought it preferable to have developed a program which allowed the user to experiment with both enlarging/shrinking and stretching/compressing within the same program, as this would have generated more discussion. Finally, as no hard copy of the screen could be obtained unless a photograph was taken, it seemed a pity that only nine pictures could be saved on each disc.

Gay Foxall
Hereford and Worcester LEA

Title: **Pendown**
Publisher: Logotron Ltd, Dales Brewery, Gwydir St, Cambridge CB1 2LJ
Machine: Acorn BBC B(ROM)
Price: £41.95 including VAT & post and packing.

Earlier last year a new product appeared from the Logotron stable, a 'child centred word processor' aimed at children aged either 6–12 or 6–14 depending on which bit of blurb you read.

The program has been researched by Peter Hunter, a Somerset teacher, who has been doing a Ph.D. at Exeter University in the problems children face with word processors, and he has put his research into practice with *Pendown*. As outlined in the LOGOTRON house magazine STAR LOGO, his design principles were as follows:

When the program is first loaded there should be no menu barrier.

There should be no embedded commands or control characters.

Screen format should by WYSIWYG. (What You See Is What You Get).

The typestyle should be consistent with the print encountered by children in their first reading books.

The manual should be virtually unnecessary and the program should appear logical and consistent to a child.

The program should not be a toy.

Before I start to review *Pendown* I must show my hand, I am a declared *Wordwise Pluser* and like it 'warts an' all'. So to come to an exclusively menu driven word processor was like learning to

drive on the right hand side of the road, a bit awkward and unnatural at first.

The program package consists of:-

The *Pendown* 16k ROM
The *Pendown* utilities disc
The manual
Keyboard function key strip
Concept keyboard function key strip

Getting going

After inserting the ROM, access to the program is via a *PD command which takes you straight to the first writing page with a status panel at the top, and writing can begin. This is where the differences are seen immediately, as you write on the page (in 40 column mode) the lines do not scroll up as in WW+ but the page is filled from the top downwards. When the page is full a new page has to be selected either via the down cursor key or via one of the function key driven pull-down menus. The page length and line length are set via the Writing Menu and this can be done at any time.

Printing problem

Astute readers will have already spotted a problem, namely, if the on-screen text is in 40 column mode and the program is WYSIWYG how do you get it to print right across an A4 sheet? This is the big compromise in *Pendown*. When printing, the default mode of the program is 40 column with a page length of 23 lines (one screen full) so that when it is dumped in normal type the text fills only the left-hand half of an A4 sheet. To print across the full page the line length has to be reduced to 39 via the Writing Menu and then Print (80-column) has to be selected via the Printing Menu. But in doing this there is no way of previewing the 80 column text, the results of which can be a little strange at times, and it needs a good deal of juggling to obtain a satisfactory copy.

This problem is the major drawback in an otherwise excellent package. I also have reservations about the designated age bracket because it is so wide. I wonder how quickly children will grow out of *Pendown* and want something with more scope such as *Wordwise plus, View* or *Interword*. If a child starts word processing at the age of six then in six to eight years time he should be ready for something a little more flexible. But this is something than only time will tell.

Features

The features that I do like are, first, the facility, via the utilities disc, to print out text in five very large fonts, (Gothic, Jumbo, Chunky, Horizon and Moderna) and also to design your own fonts. The second useful feature is the dictionary pull-down which works in two ways, alphabetically, and by groups of like words. The dictionary can be extended to build up a very extensive personal vocabulary for a particular child or group of children who may be writing about a visit and need access to difficult names and phrases.

Additionally, the utilities disc contains a number of other programs that come bundled with *Pendown*. These include the font editor already mentioned, the dictionary editor, a concept keyboard editor, and a help-file editor.

Text control

With the lack of embedded commands the question 'will it do all the things you want it to do?' must be asked. The answer is 'well, almost.'

Things like underlining, left margins, headers and footers, automatic page numbering and other useful features that come into their own when handling longer pieces of text are absent from *Pendown*. But perhaps these and similar features that are available on other word processors are not required by younger children whose output of text may not be great. On the other hand children who are producing a school magazine will more than likely need these commands at some time or another.

Conclusion

Do I like *Pendown*? Yes. I think it is a good and powerful package that will do a lot to encourage teachers to get going on word processing with their children. It is simple to use and includes many powerful features, with the advantage that the whole program can be run via a concept keyboard.

The spiral bound documentation is clear and concise, it avoids technical jargon, and it includes examples of children's work. I think the design brief was very good and the program matches it but in doing so some of the flexibility of other packages has been lost. I also think that the age target of 6–14 is too wide for one program to satisfactorily encompass.

Chris Hurrell
Shropshire LEA

MAPE and Newman College software news

The coding below shows the alterations which have to be made to *Front Page Extra* (MAPE Tape 3) in order for it to work on the BBC Master. The amendments have been written by Simon Harris at Newman College Computer Centre.

```
Front Page Extra (MAPE Tape III):

  LOAD"CHECK" from the disk
  Change line 7240 to the following:
   7240 B%=X*8+Y*640+&3000:PROCmem(&72,B%):FORA%=1TOLENA$:B%=ASC(MID$(
        A$,A%,1)):PROCrd(B%):PROCmem(&70,&81):?&74=x:?&79=y:CALLD%:B%=
        ?&72+256*?&73:B%=B%-640*?&79+8*?&74:PROCmem(&72,B%):NEXT:ENDPR
        OC
  Add this line:
   7250 DEFPROCrd(C):LOCALA%,X%,Y%:A%=10:X%=&80:Y%=0:?X%=C:CALL&FFF1:E
        NDPROC
  Change line 4000 to the following:
   4000 DEFPROCpri:Z=0
  Add this line:
   4005 A%=0:X%=255:OS=(USR&FFF4 AND&FFFF)DIV256:IFOS<3:ELSE
        A%=182:X%=0:Y%=255:IF(USR&FFF4 AND&8000):Z=10:ELSEOS=0
  Change line 4010 to the following:
   4010 IFOS<3:A%=246:X%=0:Y%=255:IF(USR&FFF4 AND&FFFF)DIV256<>10:Z=10
  SAVE"CHECK" back to the disk.

  LOAD"FIRSTP1" from the disk.
  Change line 7240 to the following:
   7240 B%=X*8+Y*640+&3000:PROCme(&72,B%):FORL=1TOLENA$:B%=ASC(MID$(A$
        ,L,1)):PROCrd(B%):PROCme(&70,&81):?&74=x:?&79=y:CALLD%:B%=?&72
        +256*?&73:B%=B%-640*?&79+8*?&74:PROCme(&72,B%):NEXT:ENDPROC
  Add this line:
   7250 DEFPROCrd(C):LOCALA%,X%,Y%:A%=10:X%=&80:Y%=0:?X%=C:CALL&FFF1:E
        NDPROC
  SAVE"FIRSTP1" back to the disk.
```

Newman College has also revised the BBC and RML 480Z versions of *Wordplay* to allow you to replace any unsatisfactory lines in your final verse with new lines, generated at random. This enables a child to discard a displeasing line in favour of a better one, an operation which can be continually repeated. The new version also includes a printer routine which produces double height text. This revised version is available from Roger Keeling, Newman College, Bartley Green, Birmingham B32 3NT. Please send a blank formatted disc, 30p in stamps and a self-addressed sticky label. Please indicate which version you require (BBC or RML 480Z).

For those of you who are familiar with *Grass*, you may be interested to know that the Micro-Electronics Education Unit, Cymru, have produced a very professional translation of *Grass* into Welsh. Newman College also has available a Nimbus version of *Grass* and *Front Page Extra*, with a Nimbus version of *News Bulletin* on the way. The primary spreadsheet, *Grasshopper*, is also available in BBC format with Nimbus format to follow.

A reminder that the MAPE AGM will be held on Saturday afternoon, April 11th, during this year's annual Conference. If you have any matters that you would like discussed then I shall be pleased to hear from you. There are already two Specials in the pipeline, one related to what is happening with micros in schools overseas and the other concerned with problems relating to the transition from primary to secondary.

Notes: **Christmas Special** – There is a decimal point missing from line 70 in Dave Clayton's program in 'A play on the computer'. Line 70 should read:

SOUND 1,–15,A,.3:NEXT

MAPE Tape 4 – We would like to apologise to Liz Lusty for omitting to include her name as co-author of *The Magic Telephone*. We regret this omission. The popularity of this program is reflected in the fact that we have already received over 200 requests for Part Two.

Roger Keeling

MAPE news

Northern

In July a newsletter and Committee nomination form were sent to all Northern members. The new committee for 86/87 met in Durham on September 17th, 1986.

It was agreed that, to aid communication and contact with members, the committee would be extended to include LEA representatives and volunteer town/area representatives. The Committee now has the following members.

Dave Adamson – Gateshead (National Representative)
Ian Gustard – Newcastle
Liz Freeman – Cumbria
Marie Fairburn – Barrow in Furness (Cumbria)
Alan Forrester – Wigton (Cumbria)
Harry Weightman – Durham
Marilyn Nellist – Great Ayton (Durham) (Secretary)
Peter Hampson – Sunderland
Robin Sanderson – South Tyneside
David Campbell – Cleveland

Co-options
Peter Whitfield – Newcastle (Treasurer)
Anne Liddle – Cleveland (MAPE National Secretary)
Julie High – Newcastle (M.E.S.U.)

We still need reresentatives for North Tyneside and Northumberland. If anyone is interested please will they contact any of the people above.

Last year a MAPE travelling exhibition was arranged. The exhibition consisted of children's work based on MAPE TAPES I, II, III and *MICRO-SCOPE* Specials. The exhibition was shown in a number of LEA Teachers' Centres etc. and was well received. It was decided by this year's committee that another travelling exhibition will again tour the area and related workshops will be held at the same time. Details will be sent to members later, the first exhibition/ workshop will be in January, 1987 in Cleveland.

If anyone has any ideas for regional activities and support please contact any committee member in your area.

Dave Adamson

Eastern

Despite being held on a dismal rainy night in October, the Eastern Region MAPE Exhibition on Adventure Games proved to be both an excellently resourced and well attended evening. Many thanks to Wickford County Primary School for allowing us to use their premises.

The number of games on display, along with the range of cross-curriculum extension activities, revealed both the enthusiasm and scope that such programs had generated in colleagues' classrooms.

The evening was lively with much interest being shown by the teachers who came to view (and play!). Many questions were asked and problems raised, and we hope we provided some of the answers. Many teachers are concerned about the suitability and flexibility of adventure games for different age ranges and abilities, and how best to organise the classroom situation so that the games are integrated into general curricular activities. Advice was also sought about how to organise the timetable, on a school basis, to achieve the maximum benefit from computer time.

A second Exhibition will be held next term, showing work from a range of adventure games. it will be held on Tuesday, 17th March, 1987 at Odessa Infants School, Wellington Road, E7 9PY, at 7pm.

Any queries or offers of work generated from Adventure Games please contact Jacky Moore at INSEC, The Credon Centre, Kirton Road, Plaistow, London, E13 9DR. Tel (01) 470 0931 Ext 33.

Jacky Moore

South West

A word processing workshop was held at the College of St. Paul and St. Mary, on Saturday 7th November.

After an initial review of forthcoming MAPE 'goodies', a possible policy for word processing in primary schools was outlined. The activities for the day were outlined in this same context.

The workshop enabled members to use *InterWord, Pendown, Wordwise, Concept Writer,* with speech, *Infant Writer, Front Page Extra,* and *Tray*. One group, led by Janice Staines, used the editor of Logotron LOGO as a word processor to develop their own interactive adventure game.

Participants who were not members of MAPE were convinced of the need to join after using *Front Page Extra.*

The meeting ended with the forming of two local committees, one based in Bristol, and one in Cheltenham under the Chairmanship of Mary Oliver.

The next events planned for Cheltenham are:–

1. An adventure games workshop, when members will have the opportunity to talk about, use and compare, adventure games that have been used successfully in local schools. This will take place on Saturday 21st March, 1987 at the College of St Paul & St Mary. BBC Software only. Cost £1.50 MAPE members; £2.50 non-members. Further details from Michael Bingham, 23 Arden Road, Leckhampton, Cheltenham, Glos GL53 0HG.
2. A LOGO workshop, where members of both MAPE and BLUG will have the opportunity to use aspects of LOGO on a variety of machines. This will take place on Saturday 9th May, 1987. Write to me for a booking form.

The first events planned for Bristol will be published as soon as possible. Members in this area should contact me with their ideas so that I can pass these on to the local committee.

Reg Eyre

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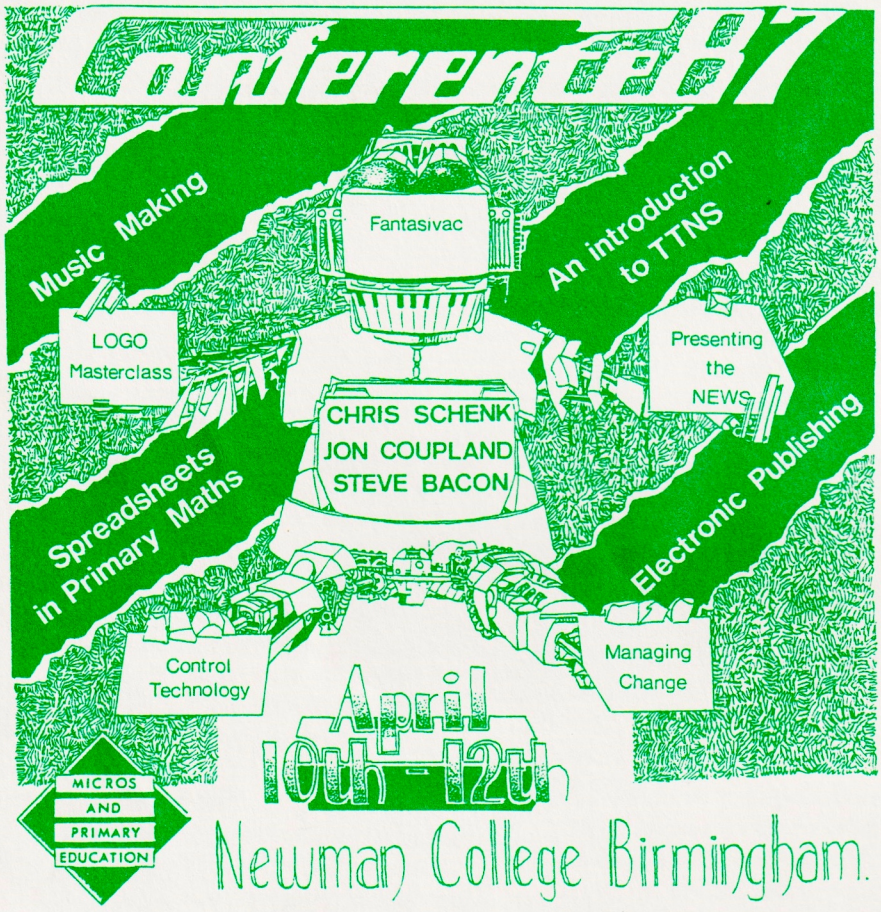
MAPE



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