MICRO SCOPE -

LIBRARY OF THE FUTURE

NEWMAN COLLEGE with MAPE

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MICRO-SCOPE matters

Chris Robson

Welcome to 1992! As MAPE begins its 11th year, this issue of *MICRO-SCOPE* addresses issues past, present and future.

Despite ten years' experience, (much of it agonisingly acquired!), there are still no clear-cut solutions to the perennial problem facing most primary teachers; how *do* you organise the use of a single computer in the classroom? Chris Taylor discusses some of the issues involved and offers some helpful advice, with particular reference to health and safety matters. Another question which returns year after year is that of keyboarding, or typing skills. *Should* primary children be taught to type 'properly'? Peter Hampson puts forward a case and we invite you to send us *your* views.

The term 'good practice' is one which is often used but can be as difficult to identify in relation to information technology as it is in any other area of activity in school. Chris Hurrell muses on the indicators of 'good practice' and gives us some of his ideas, but what do *you* think? Write and let us know. Her Majesty's Inspectors have surveyed the state of IT in primary schools and their report was published late last year. Roger Keeling has reviewed this excellent booklet and I join him in recommending it to all MAPE members as an informative, reassuring, challenging and enjoyable read. (I make no apologies for the apparent contradiction in terms – but read it for yourself!)

As usual, *MICRO-SCOPE* celebrates some of the enterprising IT work going on in and around schools: Eileen Jaques has been pursued by Pip across London; Sue Gallagher's children have used their desk top publishing skills to boost the Lake District's tourist trade; Chris Robinson shares some of his mistakes with us in *Crosswords*; whilst our software reviewer in this issue is ten-year-old Katie Monson. The results of the 10th anniversary competition are announced on page 28, while Bernie Connolly, who won a concept keyboard in the MAPE Ireland Conference competition, tells us how she put her prize to good use.

There must be many MAPE members who by now have an almost complete set of *MICRO-SCOPEs* and know that the article they want is in there somewhere, but which issue was it in? Dave Siviter tells us how he has updated the database index which will be available to members in various disc formats later this year.

Jack Kenny looks to the future in his article about CD ROM, giving some indication of the ways in which this technology is being used now and pointing to directions in which this could take us in the future. We look forward to hearing more about CD ROM in primary schools in our next issue, when Andre Wagstaff will be continuing the story.

MAPE as an organisation is looking to the future too: many of the members who responded to our questionnaire in the last issue requested more reviews of hardware and software. I should be delighted to include more reviews but in order to do this, I need more reviewers! I am interested in hearing from people who would like to contribute in this way, particularly those who would like to review items of hardware or software which they have found useful (or otherwise!) in their classrooms.

In *MICRO-SCOPE 36*, Senga Whiteman will be writing in more detail about the results of the questionnaire; there will be information about Shareware and copyright issues, and Chris Hurrell will be Musing from his new abode North of the Border, in Jordanhill College.

The occasional series giving an insight into the lives of the MAPE Council members, which began in *MICRO-SCOPE 34* with MAPE Office Memoirs, will continue with the Tribulations of a Treasurer and who knows? . . . *MICRO-SCOPE 38* may well reveal the Secrets of the Secretary!

The *Touch Explorer Plus* Special, *Into Europe*, has suffered from production delays but will be published in the summer term, followed later this year by a revised Concept Keyboard Special, another Logo Special and the Humanities Special. The Humanities Special will cover the use of IT in History, Geography and Religious Education both as part of thematic work and as separate subjects throughout the primary age range. If you would like to contribute to the Logo or Humanities Specials or to next year's planned Creative Arts Special, contact me and I'll put you in touch with their editors. In addition, articles, reviews and opinions on any aspect of IT in education are welcome at any time for *MICRO-SCOPE*. I look forward to hearing from you!

'And the winner is . . . !'

Bernie Connolly
Mercy Primary School, Belfast

I was first introduced to *Touch Explorer Plus* at the Annual MAPE Ireland Conference, held in Stranmillis College, Belfast in March 1991. Although, as IT co-ordinator of my school, I had frequently assisted teachers of infant classes in preparing overlays for the Concept Keyboard, I had never considered the possibility of using a Concept Keyboard with my P7 class.

Impressed by Chris Robson's demonstration of a wide range of overlays for *Touch Explorer Plus*, I began to realise the potential that this program might have for upper primary classes. Our school owned three A4 Concept Keyboards which were allocated to the infant department. I was delighted therefore to become the winner of an A3 Keyboard in a fund-raising draw at the close of our Conference. I immediately placed an order for *Touch Explorer Plus*.

The accompanying overlays of an Elizabethan cottage provided a good starting point, allowing my pupils to become familiar with the program. Similar overlays could be made about any period in history or indeed to assist pupils to make a plan of a room or building. I was interested to see how these pupils would cope with collecting and inputting their own information onto a class-designed overlay.

My class were currently working on a project entitled 'Hooked on Books', which involved studies of the history of printing and the publishing of modern books, finding out about famous authors, and investigating the type of books the pupils themselves read, why they read and the various sources from which they obtained their books. This project coincided with the opening of a centralised library in our school. One aspect that we discussed while working on the project was the contribution that computers have made to the running of public libraries. We wondered if we could use the computer in our new school library as a source of information for pupils who might be unsure of which book to choose. *Touch Explorer Plus* was chosen since it could be used by infant classes (already familiar with the Concept Keyboard) with the help of their teacher, while older pupils could access information independently.

The first stage in gathering the necessary information involved a survey throughout the school to find a list of the favourite books enjoyed by each class. Each of my pupils was then assigned to read two of these books and to write short reviews on them. Consideration had to be given to the reading ability of younger pupils when writing these reviews. It was planned that the completed overlay for each year group would have three levels as follows:

Level 1. Title and author of the six most popular books.
Level 2. A short review of each of these books.
Level 3. A list of other books by the same author.

The library skills of my pupils were developed during this stage of the research. Many of the pupils enjoyed reading the beautifully illustrated books in the infant section of the library so much that they set about writing their own books for them, which they later read to the infant classes.

When all the information had been collected, pupils were organised into groups of six to work on each overlay, giving each of them responsibility for one block on the overlay. They soon became familiar with the pattern of 'setting a block', entering the text, moving on to another block and saving the overlay. Since the final operation required a lot of disc swapping, I was careful to supervise this closely to avoid information being accidentally lost. For the same reason I decided to save each overlay onto a different disc. Although this process was quite slow, pupils had plenty of other activities related to the project to pursue while other groups were working at the computer. When all the information had been edited we added control squares to each overlay, allowing information to be sent to the printer or different levels to be accessed by the press of a square. Finally, overlays for each of the three levels were grouped together.

Although my class were by now very confident at using *Touch Explorer Plus*, other pupils using the program for the first time might have found it confusing, so a simple set of instructions was written out, outlining step by step how to use the program. When the computer was set up in the library along with *Touch Explorer Plus* and the instructions, we found that users often omitted to choose the 'group overlays' from the menu.

(The program was set up so that 'single overlays' appeared on the screen first, and to get to the group overlays one had to choose 'See other list'.) Many people ignored this and by choosing a single overlay were therefore unable to move from one level to another. I have since realised that by setting the Teacher Controls it is possible to display a list of group overlays first.

The project, 'Hooked on Books' was completed in May 1991 and won first place in the P6/P7 category in the Annual BELB Computer Fair. Each area board submitted winning entries to the Regional Final of the BP/MAPE Primary Computer Competition. 'Hooked on Books' came out tops with another first place in Category C, winning a prize of £300 and a selection of software packs for our school (see Regional news in *MICRO-SCOPE 34*.

Editor's note: Being the Editor of *MICRO-SCOPE* certainly changes one's view of the world. I was delighted to be invited to take part in the MAPE Northern Ireland Conference in 1991 but, as I pulled the prizewinner's name from the hat at the end, the newly-acquired Editor's mantle was weighing heavily on my shoulders. As Bernie emerged from the hall, proudly clutching her new Concept Keyboard, I'd already decided on the title of this article and it was duly commissioned before she had time to draw breath! Thanks Bernie!
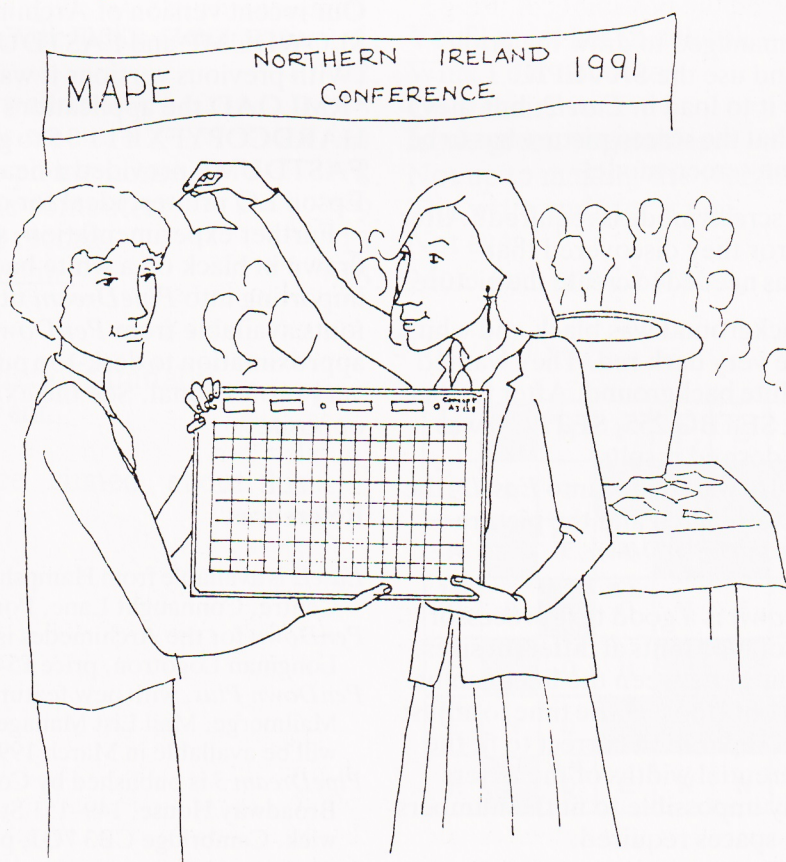
LOGO FILE:
Crosswords – learning by our mistakes

Chris Robinson
Horndean Middle School, Hampshire

It was during the last couple of weeks of term that we took delivery of a number of A3000 computers. In a rush to get them out and in use, copies of *Easel2* and *PenDown*, supplied on county licence, were hastily prepared and circulated.

Meanwhile, my class had been making up their own word puzzles to set each other. Some children wondered whether they could draw out a crossword puzzle grid with the computer.

Mistake 1: *Easel2* may be a good creative painting program, but you cannot draw straight lines with it!

Solution 1: The children decided to draw a grid in Logo to import into *Easel2* for painting in the solid squares.

Mistake 2: They managed to draw the grid relatively easily and use the SAVEPIC command to save it to load in *Easel2*, but they were to discover that the screen picture has to be created in the same screen mode!

Problem: Which screen mode is required? After much trial and error they discovered that SETMODE 13 was needed to create the picture.

Problem: The background was black and white and the lines were very dark red. They wanted black lines on a white background. After further experimentation, SETBG 255, SETPC 0 was found to give the desired results.

The screen picture was loaded into *Easel2*, the required squares were filled and the picture resaved to import into *PenDown*.

Mistake 3: *PenDown* is a good text processor offering a variety of type fonts at different sizes. The spacing (leading) between the lines can be adjusted easily. It only took a little time to adjust this to get the text separation correct to fit the grid, *but* the differential widths of the letters made it practically impossible to fit the numbers of letters into the spaces required.

It was at this point that we realised that we had been seduced by the technology and the wonders of integrated RISC-OS software. We had made an easy job harder. We could have done the whole job easily using just Logo!

Archimedes Logo has the ability to FILL shapes and to place TITLES (labels) at the turtle's position.

Back to the drawing board

Using Archimedes Logo's default graphics screen mode (12) with black background (0) and white lines (7), the grid was drawn again. The turtle was now simply driven over the grid, with the pen up, titling or filling squares as required. Our recent version of Archimedes Logo has SLOWDUMP and FASTDUMP commands. (With previous versions it was necessary to *RMLOAD the applications to * HARDCOPYFX 0 1 1 0 5 to get a screen copy.) FASTDUMP provided a neat grid from our Epson LQ printer, ideal for our purposes.

Further experimentation, saving the pattern drawn in black on a white background and importing into *PipeDream* utilising some of the fonts available from *PenDown* has produced an approximation to desk-top publishing that looks very professional. See the example (Figure 1) opposite.

References

Easel2 is available from Hampshire Microtechnology Centre, Connaught Lane, Portsmouth PO6 4SJ.

PenDown for the Archimedes is published by Longman Logotron, price £54 + VAT.

PenDown Plus, with new features including Mailmerge, Mail List Manager and Table Editor, will be available in March 1992.

PipeDream 3 is published by Colton Software, Broadway House, 149–151 St Neots Road, Hardwick, Cambridge CB3 7QJ, price £147 + VAT.

CLUES ACROSS

2. A cockney will make stairs with them and pears.
5. Chew and swallow.
6. Mischievous creature.
7. He wants to phone home.
9. The object is computers.
10. Small silver record.
11. To be cooked in.
12. Negative.
13. Not off.
14. Make unconscious initially.
16. After the event.
17. Not 8 up.
18. The menace sinned about his name.

CLUES DOWN

1. You'll meet her in school.
2. What I did about tea.
3. On a chair.
4. Little green vegetables.
8. Not up to making the weight.
9. The write stuff for a pen.
13. Not even.
15. More than one 13 across.

SOLUTION

Figure 1 *The finished crossword, created in Logo and printed from* PipeDream.

Managing a single computer system in a classroom

Chris Taylor
Exeter University School of Education

In a primary school classroom a number of activities may be taking place at once and children will often be working in groups. In such a situation some aspects of management of the use of the computer are relatively simple, as it becomes an activity for one of the groups. If this use is to be effective however, a number of aspects of organisation need to be carefully considered; just placing the computer in any convenient space and directing a group of pupils to work on it may not be sufficient!

One solution a number of teachers have found is simply not to use it at all! Anita Straker[1] illustrates such attitudes:

'It hasn't been out over recent weeks because in the summer term we're tied up with all sorts of other things.'
'It's the effort of getting it organised (Fig. 1). We have two buildings and there are lots of steps so we can't have a trolley.'
'Our rooms have only one power source and unfortunately it's next to the blackboard. Unless we trail terrific long wires around it's the centre of attention near the front of the class.'

'It's the chickens (Fig. 2). The children are hatching chickens just now and we are using the only suitable electric socket for the incubator.'

The introduction of the National Curriculum has made such attitudes redundant now that every child has an entitlement to IT literacy in a cross-curricular context.

Classroom management

Sue Senior, writing with reference to the primary curriculum, said: 'children should work in small groups or as pairs so that they benefit from the social interaction and collaboration.'[2] Older students may also benefit from group activities, such as problem-solving simulations, by working cooperatively at the computer. Such a means of using the computer may be resource efficient and lead to interesting collaborative work, but it is not likely to lead to advanced IT capability in all members of the group. Rather, it must be seen as a means of stimulating that group or providing them with a different medium in which to work.
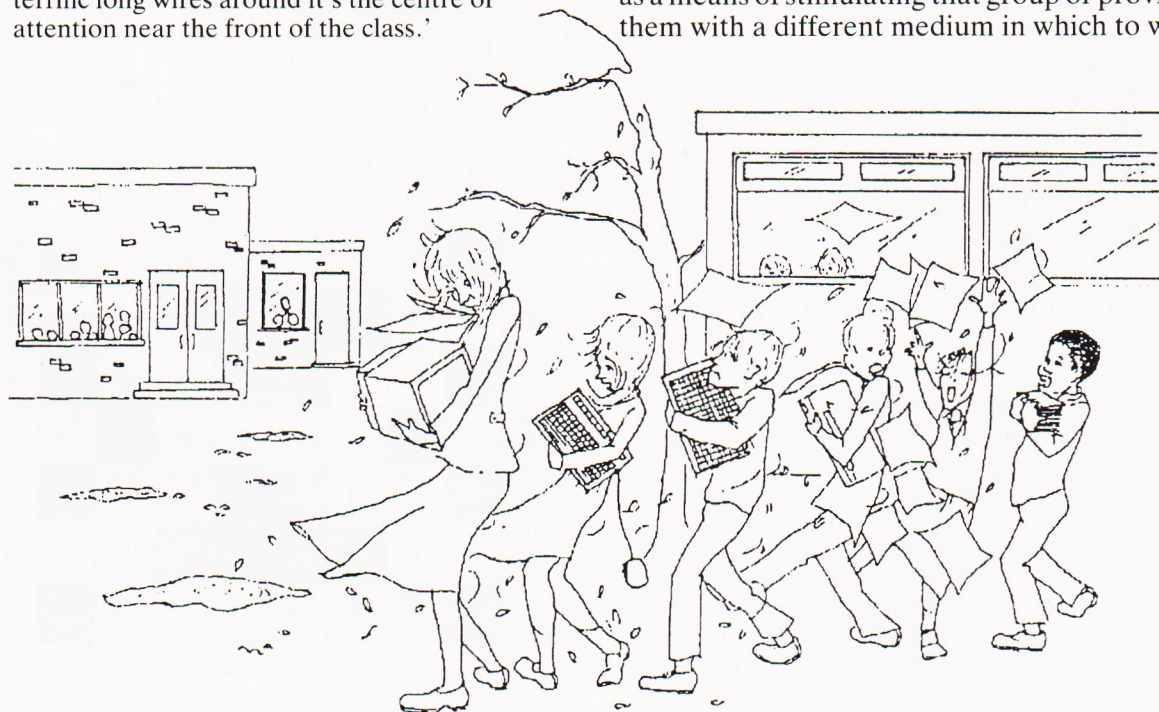

Figure 1 *'It's the effort of getting it organised . . .'*

Figure 2 *'It's the chickens!'*

Many school computers are still based on designs which prevent separation of the keyboard from the rest of the system. In this way education is way behind good office practice. In a group situation, a separate keyboard with an extendible lead such as that used on many IBM compatibles, Research Machines' Nimbus and the Acorn A400 series, facilitates collaborative work since the keyboard can easily be passed from one pupil to another. The monitor and any text displayed on it must be large enough for all the group to read easily.

Computer furniture

The work surface should be large enough to permit the use of a mouse, concept keyboard or other peripherals and still leave sufficient space for any books, notes or other materials that may be needed. A trolley may make positioning easier, and allow it to be moved from class to class or locked in a cupboard at the end of the day for security, but trolleys are bulky and can only be used if space permits.

There are a number of commercially available trolleys and work benches specially designed for use in schools, but they tend to be a compromise between cost, strength and size. Various manufacturers offer different options, such as shelves for monitors and printers, storage baskets for paper, four-way earthed sockets already fitted, rear guards to prevent the monitors sliding off and lockable wheels. If you are choosing a trolley, try to look at several models before deciding what will best suit your particular circumstances. A permanent place in the classroom is the best option, but this is only really feasible if the computer does not need to be shared with other classes and is not likely to be stolen.

If trolleys or fixed benches are not available, then a suitable alternative should be chosen. It is very important that the surface should be of an appropriate height for the users, give adequate leg room, be close to a power supply and of sufficient depth so that the monitor can be placed above and well behind the computer keyboard, using a monitor stand if necessary. The chairs should be of a suitable height, both to encourage good posture and to give a comfortable sitting position. Whilst stools may be popular with children and take up less room, they do not give any lumbar support.

Health and safety

Many local authorities advise schools to use a safety cut-out plug in conjunction with a computer system, to minimise risk from electrical faults.

The computer appears to be relatively safe in electrical terms but there are still areas of uncertainty with regard to screen flicker and monitor emissions. Evidence of such risks is tenuous and causal links are hard to form due to the difficulties of collecting experimental evidence. But, even though evidence of the potential dangers from magnetic fields from VDUs may not be conclusive, teachers should be aware of the concerns and be willing to take appropriate action. It is advisable, for example, to seat children at least at arm's length (70 cm)

from the screen, and avoid any children sitting immediately alongside or behind the monitor, certainly not within a distance of 120 cm.

There is, however, substantial evidence of office workers suffering eyestrain and physical problems with backs and necks, caused by extensive VDU use. A recent survey by Gallup indicated that nearly a third of office workers suffered from VDU usage, with 24 per cent reporting headaches and 27 per cent complaining of glare and reflection. Some monitors have a matt surface which minimises reflections. Careful siting of the computer system, so that the screen does not reflect windows or lights, will minimise eyestrain, provided that the siting of the power socket allows you this flexibility, without having recourse to extension cables which may contravene your local health and safety regulations. In recent years, matt pastel wall colourings have been used in many schools, but you may also find it necessary to reduce the overall light level in the room by using blinds or curtains. In most cases, however, individuals in education will use the computer for relatively short periods of time so such risks will be comparatively slight. ('Are you sitting comfortably?', Chris Hurrell's Musing 4, in *MICRO-SCOPE 34*, drew attention to the importance of careful monitor siting.)

There is also evidence that low speed flicker, as caused by fluorescent lights and computer monitors can affect the human nervous system. In up to one person in ten, the flicker can cause disturbance such as severe headaches, so it is best to try not to combine the effects of VDUs with fluorescent lights, and to keep screen contrast turned well down. If a classroom is poorly served with natural light, then tungsten filament bulbs may help to reduce the combined flicker from VDU and fluorescent lighting.

Note: If you have concerns about any safety issues, contact your local authority computer centre or adviser for further information.

Avoiding disturbance

In order to minimise disturbance to the rest of the class, the computer should be placed so that the screen flicker does not disturb them and the screen images do not provide more interest than their own work!

Noise disturbance from the computer can be another problem, although most noisy programs offer a facility to turn off the sound. To minimise noise disturbance, use the printer when noise disturbance does not matter, or at break times. Screen and graphics dumps can take a long time,

depending on the program being used, and this needs to be considered when organising the printing out of work.

Security of the systems

On the whole, classrooms tend to be very dusty places. Moving parts of the computer such as the keys and disc drive are particularly susceptible to dust so it is advisable to cover the system whenever it is not in use and to minimise movement. Commercial dust covers are available; alternatively a large cloth can be used. Plastic covers do have the advantage of giving some protection from spillage, leaking roofs and burst pipes, which are not unknown in classroom situations!

The risk of theft or vandalism is a serious issue, higher in some schools than others. There are various measures that can be undertaken to reduce the chances of theft. These include:

- security marking the computer, either with hard security paint, or with invisible ultra-violet-sensitive paint or security pens;
- putting the computer away at night; this is only an easy option if it is on a trolley and if there is a convenient large cupboard in which to lock it;
- covering the computer: a number of schools turn their computers into a neatly draped flower stand at night on the theory that what the eye can't see . . . If you do this, however, do make sure that there is no danger of the flower container being knocked over and the water flooding into the computer!
- locking the computer – there is a range of devices available to clamp computers to a table top, and in some cases simple padlocks have been used, passed through the computer case.

Other security measures include simple intruder alarms which are available from around £50 to detect either movement or changes in heat in the room. Keeping computers out of sight in upstairs rooms is another possibility but this is no use if your institution is a single storey one or includes a number of Portakabins! But whatever measures you take, do ensure that you make a note of the serial numbers of all items of equipment, so that if the worst does happens, you can reclaim any items that are found.

Alternatives to computer workstations

It is possible to develop some aspects of IT capability without using computer workstations;

reductions in the price of laptop computers is making them accessible to all phases of education. For example, the Cambridge Z88 is being used by increasing numbers of schools above top junior level. Its integrated software, though not designed specifically for education, offers a portable means of word processing, with built in spreadsheet and data handling. It can be battery or mains powered and transferring files to other computers is quite simple. The Z88 is moderately showerproof so it can be used outside. Other manufacturers, such as Tandy, Atari, Amstrad and, more recently, Research Machines produce small, portable machines which are available at educational prices of about £200 or less.

Inexpensive laptops are limited in terms of screen display quality but usually have facilities to plug into external monitors. The advantages of laptop systems include: low price, versatility, ease of security, portability, ease of file transfer, smaller footprint, and absence of magnetic pulse emissions and flicker.

Other useful IT devices which could be considered for classroom use include tape recorders, video cameras, calculators, floor robots such as the Lego buggy, Pip and Roamer, television based Viewdata (CEEFAX and Oracle) personal data banks, electronic dictionaries, thesaurus and translators and education games such as Little Professor, and Speak and Spell. The programmable floor robot is probably the most versatile at primary level. All these devices can be used in the classroom to good effect without taking up valuable computer time, but at the same time developing an IT capability with their own curriculum uses.

Conclusion

If a class is not organised on a group basis, managing the use of a single computer becomes a little more difficult. The single computer system is relatively easy to cope with when teachers use activities which take individuals short periods of time, such as entering information into a database or using an electronic dictionary. Activities such as word processing can take place at the same time as others are writing. There are also occasions when a computer system will be needed by the teacher for demonstration purposes; in these circumstances a large monitor or other form of large display is advisable. It must be recognised, however, that for a single computer to be used effectively in a classroom some form of group organisation is essential. Good management of resources does not presuppose effective curriculum use, but it can help to encourage a situation where effective curriculum use is possible and hence, may enhance the education process. Teachers need to be informed about the issues concerning the management of IT in the classroom, in order to be able to identify good practice and to use this knowledge to enhance their own teaching.

References and further reading

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The great Pip race

Eileen Jaques
Curriculum support, ILECC

How *do* you introduce Logo and Control to a whole school? One way was tried at St Clements and St James Primary School, Penzance Place, North Kensington, on 22nd April 1991. The school is a small Primary C of E school with one class for each year group and the idea was to introduce the basic control commands during a 'Logo' term with the junior children (years 3–6).

Pip is an independent programmable robot shaped like a black box. It can be dressed up easily and given a personality according to its users' wishes. Movement is controlled by pressing a sequence of command keys on Pip's top. (See the article by Jola Cockram in *MICRO-SCOPE 34*.)

The children had arranged an obstacle course which went from the main hall, round the corridor then back to the hall. I was solemnly assured that 'it takes about 20 minutes'. The course was comprehensive: there were obstacles to be navigated around, a 'parking space'

needing reverse and forward, and a see-saw where Pip had to climb the first side.

The day had been divided into four sessions, one for each junior class; there were to be eight Pips and each group would have a short practice to get used to the commands and distance units before they actually started The Race. There was to be a 'tick list' with one column for every time Pip bumped into something and another for every time Pip had to be re-programmed (ie, every time you had to press GO). The groups were also being timed (Fig. 1).

Y6 were the first class through and the groups started at 3-minute intervals after their practice. Most of them worked very well (Fig. 2), and the only problem was typical London traffic jams, when later groups caught up with earlier starters. The competitive element was quite strong and the 'fast runners' did not like being held up – nor did the slower ones like being overtaken! This happened with other classes too.

Figure 1 *Practice before the start.*

Figure 2 *Near the start.*

In the middle of the morning there appeared two smartly-suited gentlemen complete with clipboards – one of the less frequent hazards of primary school, in the form of a visit by the Health and Safety section. We assured them that the obstacles were intended to be *very* temporary!

It was noticeable that some groups were thinking about what they were doing and putting several commands in at once (. . . *develop a set of commands to control movement . . .* **Te5, L3b**). By the middle of the course, most groups were making fairly accurate estimations of distances and angles, whether for a one-off command or as part of a procedure (Fig. 3).

The Pips were put on charge during the lunch hour, but unfortunately the last class of the afternoon, Y3, began to run out of both time and power. One or two of the robots started going round in aimless circles, much to the consternation of the children: 'I put in to go forward – I did, Miss!'

No amount of explaining that the batteries were failing and that there was not enough time to recharge them before the end of the afternoon could overcome the disappointment of not finishing the course. (There was obviously a hidden curriculum there on energy and power: Why do they go round in circles? Why don't they just stop? To which the answer was 'Think about it – one battery and one motor for each wheel!')

It was obvious that the classes who were familiar with Logo were able to work with Pip's estimation and command structure more quickly than those who were new to control commands of any kind. Most of the children had

enjoyed themselves and had worked enthusiastically, if not accurately! Having eight groups of competitive and quite excited children, each crawling round the school with a Pip, did not make for a restful time, especially for the uninvolved classes. Pip-racing was judged to be an excellent spectator sport, with more children than usual finding reasons for being out in the corridor or pressed against the classroom window!

P.S. I left the school happy that it had been a successful day for both children and staff, but it was the Pips who had the final say. The ON/OFF switches on some of the Pips did not have a very positive action, and as I drove back to ILECC with six Pips on the back seat, bumping in and out of one of the potholes in the road threw several of the switches. I was accompanied for the rest of the way by the burbles of Pips as they reminded me that I hadn't switched them off!

Editor's note: Any more examples of the hazards of being an advisory teacher, such as Eileen's experience of driving noisy Pips through London, will be welcome. I'll send a free MAPE pin badge to the first ten!

This article first appeared in the Autumn 1991 issue of *Share It*, ILECC's magazine.

For more information about Pip, contact: Swallow Systems, 32 High Street, High Wycombe, Bucks HP11 2AQ. Tel. 0494 813471.

Figure 3 *Towards the end.*

Musing on the educational IT scene (5)
Catching clouds: the pursuit of indicators of good practice in IT

Chris Hurrell

Have you ever sat and tried to write down just what the possible indicators of good primary practice in IT are? It's not as easy as you may think! Having just gone through this exercise and come out the other side feeling rather chastened and humble, I will have to go away and think again.

Where do you start? My usual starting point is a brainstorming session to come up with the instant gut reactions to a question that is rather nebulous. Here's an opening list:

- redrafting of text taking place on the machine, not just copy typing;
- children being independent users, able to select, load, save and print without help from the class teacher;
- evidence of a recording system of IT use which goes beyond 'taking turns';
- a written school policy;
- . . . ?

As you read the list, think: are these things specific to IT or are they general indicators that could be applied to any area of the primary curriculum? The policy certainly is, as is the use of a recording system and the keeping of records, and the independence bit is the sort of thing we want to see in children in any area.

You could go on and add things such as:

- evidence of an INSET programme for staff development that includes the head and ancillaries;

but that again is something that is equally applicable to any other curriculum area.

There must be some things that are specific to IT, that are unique and really show that good practice is going on. You could continue with:

- a suitable range of applications being used, not just an over-reliance on one package;

but isn't that the sort of thing you can also say about maths or reading – a touch of variety, a range of approaches, matching the work to the child? We are still hunting for that IT-specific indicator. How about:

- evidence of progression through a planned development line of software use.

The same as before: isn't the notion of planned progression just as valid in the humanities, sciences etc? So, am I beating my head against a brick wall, trying to find something that does not exist?

There are certain indicators of quality and good practice that are general to the classrooms in any primary school and they are visible, or 'feelable'. They are things such as busy, involved children, good differentiation and match, children being 'in charge' of their learning, quality of the environment, quality of relationships, depth of planning. But none of these will be specifically science, specifically maths or specifically IT. I think this hunt for IT indicators is an area that needs to be thought about and thought about long and hard, because inspectors and advisers visiting classrooms will have to have in their minds some things to look for, a mental tick sheet of 'Brownie points' to award, when they undertake a school review and IT will be part of that review.

One place to look for some guidance is in the LEA IT policy; they will have one. It is a good place to look to get a flavour of the way the LEA is thinking and the way they see IT going in the near future. The indicators of good practice in IT will not be listed as such, but may be buried in the depths of the document and difficult to tease out. Specifics will probably not be in evidence but I think you may find trends and attitudes, gather impressions, read between the lines and so form an overall impression of the way the authority is thinking about IT and what they value. It should then be a little easier to identify good practice or poor lines of development in your school and thus by default gain some insights into your LEA's notion of good practice in primary IT.

The views expressed in the article are personal.

Editor's note: What are your indicators of good practice in IT? Write and let me know and I'll publish a list in the next issue.

CD ROM – wings for the mind

Jack Kenny
Advisory teacher, Hertfordshire IT

Introduction

One advertisement for computers some time ago called the technology 'wheels for the mind', the idea being that it enables us more quickly or more efficiently to do those things that we always did anyway. Technology has now reached a stage where it is not just wheels for the mind but wings for the mind. It is not merely enabling us to do things more quickly and efficiently but it is enabling us to do things that previously were not possible at all. To be able to search at will and in seconds the contents of a newspaper for a whole year or a 21-volume encyclopaedia is breathtaking. In the future we will take this for granted but at the moment it is difficult not to be impressed each time we ask for a search and can do in seconds what would have once taken hours, even had we been dedicated enough to attempt it at all.

CD ROM is not a gimmick. The amount of data available to us is increasing at a vast rate, doubling every five years. The computer's ability to give us rapid access to large databases on CD ROM is needed to enable us to cope with the increasing amount of information available. The skills of finding, evaluating and using that information are becoming ever more important.

What is CD ROM?

The compact disc on which the data, the encyclopaedia or newspaper is stored is the same kind of disc that stores music. ROM means Read Only Memory. You cannot alter or add to the material on the CD disc. An encyclopaedia or newspaper on a compact disc is a new entity. Many people trying to come to terms with new ideas need models which refer to something already within their experience; CD ROM is a new concept which demands just such reference points. Does it help, for example, to know that you could fit a thousand novels on one CD ROM disc? Can you cope with the idea of one hundred million words? Will you understand better if you know that a 21-volume encylopaedia will fit on the disc with ease? Or how about storing three hundred thousand pages of text on one disc?

In the future we will be seeing compact discs doing more than holding just text. Images and music data take up considerably more space than text and there is a great deal of work taking place to develop ways of compressing data so that discs will be able to hold vast amounts of sound and images as well as text. The acronyms are many: CD-V (Compact Disc Video), CD-I (Interactive), CD-DA (Digital Audio), CD-ROM (Read-Only Memory).

We are also in for another war of standards. Philips have joined with the Japanese companies Sony and Matsushita (the world's largest consumer electronics company and parent to the Panasonic, Technics and JVC brands) to support their standard. CD-I is already launched in the professional market.

Commodore, who make the Amiga computer, have brought out their own system, called CD-TV. It is an Amiga computer coupled with a compact disc player and allows the user to interrogate a compact disc using a hand-held remote control box, rather like a TV or video control box. The cost is around £500 and it is already available in some of the hi-fi chain stores. CD-TV is an attempt by Commodore to establish a standard by catching the domestic market, where there is a great deal of money at stake. The disc that I have seen is on the early history of the cinema and it does contain some moving images as well as stills and commentary. There is a fair amount of software available but informed opinion suggests that this system will not be the way forward; the Commodore system is not compatible with the Philips and Sony CD-I system. In the near future we will be faced with some difficult choices.[1]

Information skills – learning how to learn

The challenges posed by the current, largely text-based CD-ROM technology are quite simple. We can use it well, or we can use it badly. In our schools it will put the acquisition of information skills to the top of the agenda.

'Information skills cannot be taught once and for all, nor can they be adequately developed within the confines of a single school subject or activity. They have to be introduced, explained and practised in a simple form, and then pursued in greater depth year by year and subject by subject. . . . A whole school policy on information skills would not only improve pupils' ability to search for and use information, but would also greatly facilitate their learning in other areas. Learning to learn is a powerful aid to improving effectiveness across the curriculum.'

Schools' Council Curriculum Bulletin 9

Teaching children how to learn is not just the province of the librarian, but the responsibility of the whole staff. A new piece of technology such as the CD ROM can be seen as an opportunity to start to look at different ways of working. Learning how to learn is probably the most important thing that pupils have to do. It is probably true to say that only a few schools have developed policies that fundamentally affect the way that the teachers teach and the pupils learn. We have a choice. Are we going to use the hardware and the software so that we can achieve what we have always done but more efficiently, or are we going to use the hardware and the software to change the process of education? The technology will serve both purposes but it will be more powerful if we follow the second path.

Using CD ROM in the classroom

One of the keys to making the CD ROM a more useful tool is discovering how to copy material from the CD ROM disc onto your hard disc or your floppy disc from which the text can then be accessed through your word processor. What this means is that you could copy the account of Mr Major's accession from *The Independent* CD ROM and compare it with that from *The Guardian*. You could then change the register of one version so that it would be suitable for *The Daily Telegraph*.

The fusion of research with creative work is not often explored. Students are usually told that they should write from their own experience. If they don't, the work will frequently have a flat quality to it. Many children, however, *do* want to get out of their own surroundings. If our young writers want to locate their characters in India in November they can easily find the kind of weather that they should expect; discovering that might help the narrative forward. They can find the political structure. They will have maps that they pull into the text. They will

have a digest of economic facts about the country. They can still write from their own experience: jealousy in India is exactly the same as jealousy in England!

CD ROM can be seen as a tool for writing. Combining and synthesising different sources of information is a sophisticated writing task. In this context, synthesis is the joining of thoughts and ideas into a complex whole. Suppose we have the task of looking at all the information that we can find on Homer. We will almost certainly find something about the writer in the encyclopaedias. We will also be able to use the encyclopaedia to look at the sections on Greece and Greek culture. If we use *The Library of the Future* we can interrogate *The Iliad* and *The Odyssey*. If we search one of the newspapers we will find mentions of the writer in relation to the contemporary world. Once the pupils have downloaded all the information onto paper or preferably onto disc they will then have the problem of digesting the information, understanding the information, relating the information to the writing task that they have been given, eliminating all the information that is not appropriate, and rewriting all the ideas that are left to make it accessible to the audience that they are writing for.

The process by which material is combined to become a part of our own thinking is complex. The line between plagiarising and internalising is often a matter of opinion. It will not be internalising if the pupil does not actively work with the material. The problems of plagiarism are great. Most teachers have seen children go to the school library with an inadequate brief such as 'Find all that you can on Guy Fawkes'. They find it difficult to see their way through the forest of information that they find. Their response is undiscriminating and they will copy out everything that they can see until weariness sets in. With this technology it is possible to copy thousands of words in seconds. It does not present us with new problems but highlights old problems that we did not really solve in the past.

Few people have original ideas. What we do is to present old ideas in a different way. The ability to do research and to re-present our findings is at the heart of most academic work. In many cases the high level skills necessary to do this work well have not been taught. With this technology the acquisition of information strategies becomes not merely desirable but crucial if we are to make the best use of the resource.

The passive user of information sources is learning little. If the work has been put into the word processor and then the pupil is invited to

alter the sentence structure, the vocabulary, the overall structure, and the register, the chances are that the pupil will feel some kinship with the material. The act of changing the work and modifying the text or the ideas will speed up the process whereby material becomes part of the concepts that we feel are our own. If pupils are to make real use of this rich resource then we will have to take much more seriously the teaching of information skills.

When a school is convinced that the acquisition of information strategies is the right of every pupil then this will influence a number of the early decisions that need to be made about the siting of the hardware, and the management of the hardware.

Practical considerations

Where *do* you locate a CD ROM in a school? There isn't one right answer. Some would say the library or the resources centre. Others would argue that a curriculum area should use it. The main point is that the staff of a school should have a voice in the decision and also in decisions about the purchase of the discs.

Disc purchase is an item that a school has to take seriously. In some cases the discs cost nearly £200 and you cannot afford to make too many mistakes at that price. It would be useful if a group of schools banded together to purchase some of the discs. Copyright apparently does not prevent schools loaning the discs to one another.[2]

Lastly we do have to remember what it feels like when the list of tasks that we have to do becomes so long that we simply stop from fatigue, hopelessness and bewilderment. That is just the feeling that a pupil has when she keys in a query and is told that there are 3598 references! If we are to avoid pupils developing a feeling of alienation from the vast quantities of information now at their disposal, we must equip them with the skills needed to deal effectively with that information.

Some ideas for using existing discs

1. Use a newspaper disc in classroom discussion to explore assertions, eg 'Theft is increasing.' Is it?
2. Take the text of *Romeo and Juliet* and explore it on a computer in a program such as *Hyperbook*.
3. Compare the raw news for a particular date in 1990 on *Front Page News* with the way

that it appeared in *The Times* or *The Northern Echo*.
4. Use the 1981 census data to compare two areas in the UK.
5. Take the text from one of the encyclopaedias and increase or decrease the reading age.
6. Use a hypertext program like *Genesis* or *Guide* to make a learning package from texts taken from one of the discs.
7. Follow a story through a year on one of the newspaper discs.
8. Set, at different times, two pupils the task of finding a particular piece of information. Also ask them to note down their thought processes and their way of searching. When the two tasks are done ask them to compare their journeys to the to the goal.
9. Take a current issue, for example the NHS, and use the CD ROMs to look at the history of the service or the recent problems, and turn the information into a drama, theatre in education, piece which will explore all sides.
10. Explore environmental issues by looking at facts, opinions and scientific data obtainable from the discs.

Editor's notes:
1. **CD ROM Project**. In January 1991 the DES made available £500,000 to support a pilot project to evaluate the use of CD ROM in schools. Almost all local authorities are currently taking part in the scheme, with the majority of CD ROM resources being placed in secondary schools. The evaluation is being carried out jointly by NCET and the DES and is due to be published in the summer term. At the RESOURCE Conference in November, Michael Fallon announced a further £400,000 for the development of new discs and £500,000 to investigate interactive technologies. Although there are as yet few discs which are suitable for primary school use, I believe that Jack Kenny is right in saying that CD ROM is not a gimmick and it will undoubtedly find its way into primary schools in the next 18 months. MAPE would be particularly interested in hearing from any schools or advisory teachers who have experience of using CD ROM with primary-aged pupils.
2. *Copyright*. There are however, other copyright issues involved in the use of CD ROM. Schools are strongly advised to seek advice from their local authority on all matters relating to copyright. Contact the NCET Information Directorate, Sir William Lyons Road, Science Park, University of Warwick, Coventry CV4 7EZ for further guidance.

Jack Kenny is an advisory teacher with Herts IT. He has written the NCET booklet, *Using the News: Newspapers on CD ROM*.

Activities in the Lake District: more pupils' booklets

Sue Gallagher
Kingmoor Junior School, Carlisle

Background

At the end of Sue's article in MICRO-SCOPE *34, I said that I looked forward to hearing what happened when her children returned to intensive computer use after a three month break. Neither the children nor Sue have let me down! – Editor.*

After a lean computer-time during the Spring term 1991, we used the concept keyboard program *Old Park Farm* during the Summer term as it linked in well with our current project on Habitats. *Folio* was also available, and was used for the scripts for pantomimes they had written, and for thank-you letters to the staff and other helpers who had assisted on our week's residential visit. I had a Third Year teaching student for nine weeks this term, and thought that another Micro challenge would be a useful experience for her too, as well as a way of rounding off her time with us, by assuming the work load for the last three days of the practice. (My student was very capable and I was beginning to feel redundant again!!) I also felt that as we were approaching the end of the year, 'demob-itis' could set in. The children had visited their new schools, and seemed to be maturing daily. I felt that their spirit was beginning to take flight, and that it was important that they did not mark time or feel that I had 'written them off' in some way. The last month of the school year seemed to ask for a challenge or nine!

So the work this time would centre upon producing a mini-guide to the Lake District, in which the children would incorporate some of their own experiences at the residential centre, as well as considering the needs of the disabled and of family groups. Our audience would be our recently acquired pen friends in Leamington Spa. This 'unknown' audience was to leave a positive and unexpectedly direct impression on my class, some of whom found it difficult to deal with fair criticisms which somehow seemed different when you didn't really know your

critic. It was to be a learning experience for us all!

I decided that we would continue to use *WriteOn* and *PaintSpa*, instead of going for a news-format piece of software. I felt there was still much learning to be gained from Cut 'n' Paste. I wondered how many of the skills learned in the preparation of the school booklets had stuck (*MICRO-SCOPE 34*). I needn't have worried. Within the first morning, children were already sharing ideas via their own discs. During the last session, SAVING had been a real hassle. They (and I!) had learnt the hard way! This time, though, there were no problems about saving, and just as well, because we *did* have a few problems with printer drivers. I was also able to increase the number of computers available, so the children actually worked in pairs or in threes.

At the outset I had suggested a piece of A4 folded lengthways to form the mini-guide. This was challenged immediately, and several alternatives suggested. (Why don't I ever learn?!!) In fact I had done a handout (see next page) with what I hoped were some helpful suggestions . . . most got changed!

I was immediately struck by the fact that the draft versions of this mini-guide were often better than the final versions of the pupil's booklet had been, and more interesting things were to emerge.

- There were those who thought that too many fonts were messy . . . and those who were criticised for not changing fonts!
- Details of cycle hire charges were pronounced interesting and useful by some, and boring by others.

I was struck by the fact that most of the class initialled their comments (not my suggestion . . . but then we know what happens to *my* suggestions!), and that there was often disagreement within the group, yet everyone had their say.

The Mini-guides were duly parcelled up and sent to Lesley and her class in Bishop's Tachbrook, with a note saying that we would

Activities in the Lake District.

READ THE WHOLE SHEET BEFORE YOU START!!!!!

1   LAYOUT

You should use two sides of A4.

Each side should have 2 columns. This means that you'll have to get to grips with Page Widths.

2   CONTENTS

The final sheet should have articles from each of the following.

a   Description of activities YOU have done. *Equipment, safety*

b   Activities involving physical skills e.g. rock climbing, or mountain biking. These are <u>not</u> activities you've tried. RESEARCH

c   Activities like e.g. birdwatching, or wild flower spotting, which don't need physical skills.

d   At least one water sport.

e   One article on facilities for the disabled, backed up by research by your group. RESEARCH

f   Activities suitable for whole families, or where creche or toddler-minding facilities are available. RESEARCH

g   A mini map of the Lake District with the appropriate places marked on, and with an appropriate key.

3   PRESENTATION

a   Use graphics where appropriate.

b   The whole sheet will be a cut and paste job. Think back to any difficulties you had with the pupil's booklet, and try to learn from them.

c   Your audience are your pen-friends in Leamington.

d   Page width really caused some difficuties last time! Try to experiment early on.

4   GENERAL POINTS

a   There'll be an evaluation of your drafts, by other groups and Mrs Noble and me, on Tuesday afternoon.

b   # DON'T FORGET TO SAVE AS YOU GO!!!!!!!!!!! SAVE <u>BEFORE</u> YOU PRINT.

Figure 1 *'Mrs Gallagher's ideas. We changed some of them!'* [huh! you changed *all* of them!]

understand if time was too short for them to respond. Imagine our delight when, two weeks later, the guides were returned with a 'crit' produced in identical format! What a lot of trouble the children had taken.

My class were certainly taken aback by the evaluations, which were only as direct as their own, but somehow seemed less palatable when written by strangers. A risk had been taken and it took a few minutes of combined shock and

indignation before they were able to begin to be objective! However, I have no doubt that there was an unspoken respect for the work of their pen friends, and an acknowledgement of the trouble they had taken. The one universal criticism was the lack of a map showing you how to get from Bishop's Tachbrook to the Lake District. My class had put in maps to show where the activities happened, but had not considered that their audience were quite unfamiliar with the area. The response from their pen friends shifted the whole activity up a gear, and gave me much to think about; the timing of the activity so that a draft could be sent for evaluation was important, and then there'd be time needed to re-draft. The importance of these unknown evaluators, who had succeeded in making my children look more objectively at their ideas and their work, was a real bonus.

Where to now?

Lesley and I have spoken about the value of the class link, and this will continue, but with a different colleague, since I shall be teaching year 3 next year. We further talked about the content of the children's letters . . . her class would have liked more time to find out about our area, so the booklets needed to be there earlier in the year; knowing more about each other's areas would have given meat to their letters. Each new communication, be it their letters, or the booklets or evaluations, raised awareness of

what might be done, and, in its own way, set new goals. There seemed to be no doubt about the value of these reasons for writing.

Our thanks go to Lesley Funge and her class at Bishop's Tachbrook Combined School, Warwickshire.

I am left in no doubt that, difficult though it may seem to organise, this kind of project is especially worthwhile when, at present, most classes have access to only one computer for most of the time. The enormous enthusiasm and co-operation, and the acquisition and later, the fine-tuning of skills, heavily (and literally!) outweighed any of the organisational difficulties. But it's history now. This year I have Year 3 and an antique BBC micro, and am seeking a challenge for them. Or, rather, since I 'identified the last two NEEDS', (Technology AT 1), I hope that they will identify the need this time!

Software information

Old Park Farm is a conservation theme pack for use with *Touch Explorer Plus* on the BBC and is available from NCET.

Folio for the BBC range of micros, originally from Tedimen Software, is now distributed by ESM. *European Folio* provides word-processing facilities in French and German, and *Asian Folio* in Panjabi, Hindi, Gujarati and Bengali.

WriteOn and *PaintSpa* are from SPA (Software Production Associates), for RM Nimbus and IBM compatibles.
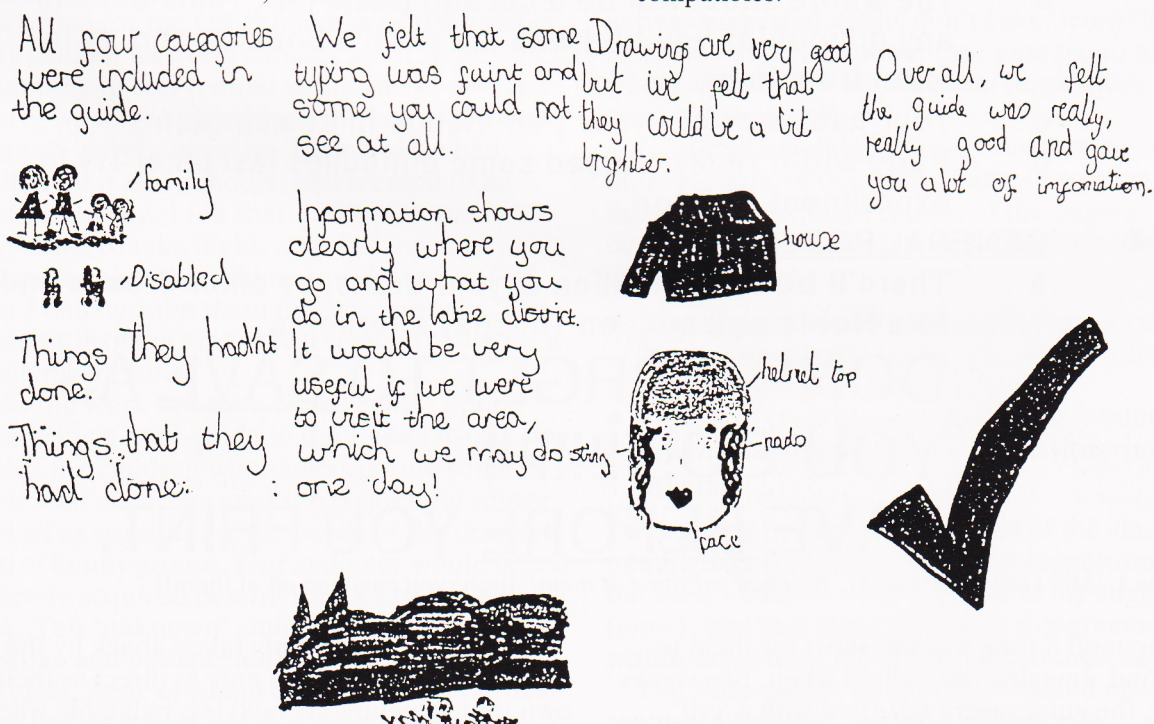

Figure 2 *Comments by Amy and Charlotte of Bishop's Tachbrook School, after seeing the first draft (Fig. 3).*
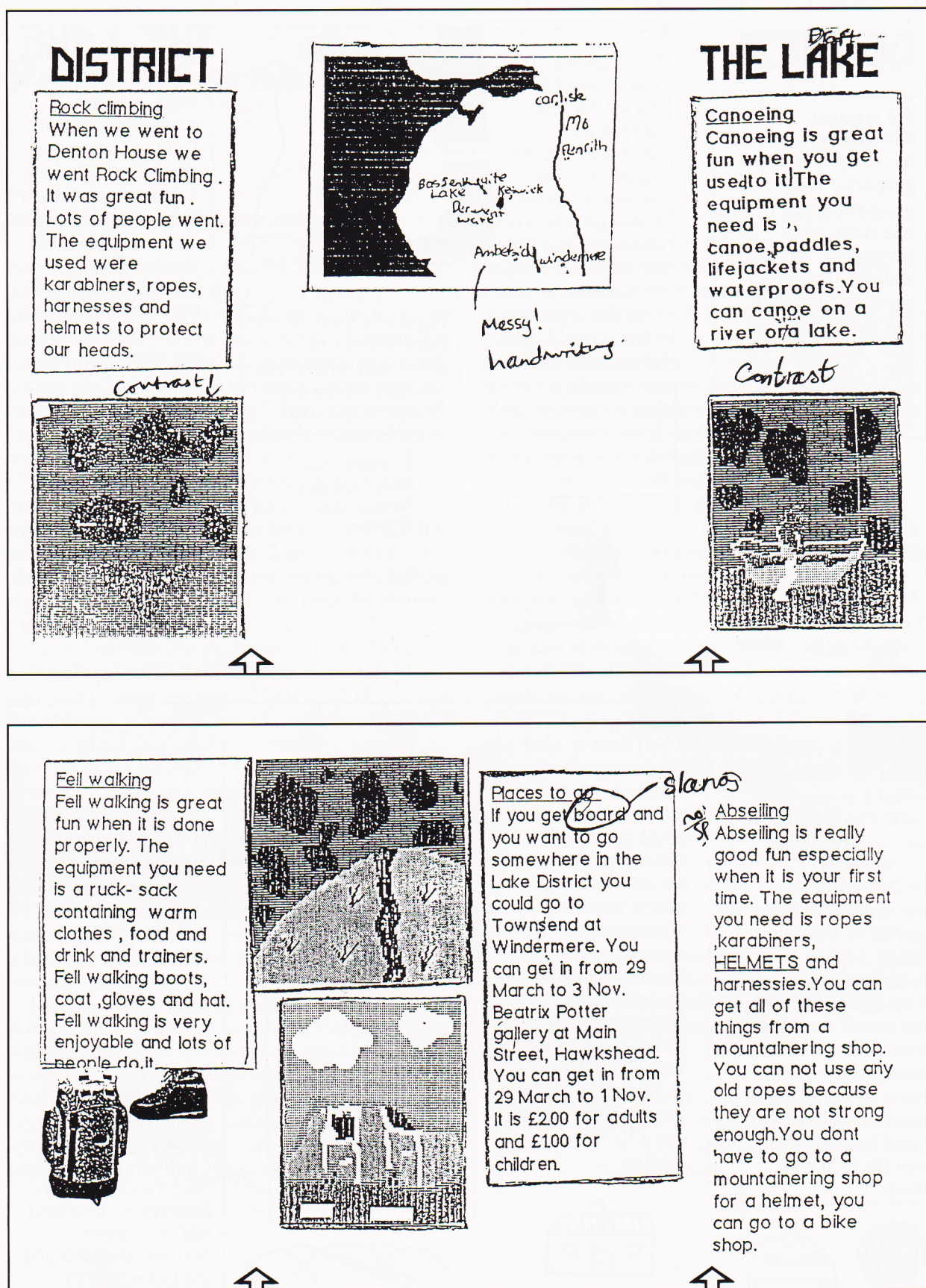
Figure 3 *First draft by Judith and Jenni of Kingmoor Junior School. The booklet consists of a single sheet, folded at the arrows. Both sides of the booklet are shown.*

DISTRICT

Fell walking
Fell walking is great fun when it is done properly. The equipment you need is a ruck- sack containing warm clothes , food and drink and trainers. Fell walking boots, coat ,gloves and hat. Fell walking is very enjoyable and lots of people do it .

By Judth Jenni

The Calvert Trust
The Calvert Trust is a trust for the people with disabilitys. It costs £12.00 for one person, £120 for up to ten people at the minimum, and £168 for fourteen people at the most and that is at the week end.
They do sailing on Bassenthwaite lake, Abseiling and Horse-riding. The Calvert Trust is in Keswick and is a great place to go.

Here is a map of the Lake District to show you where you can sail, canoe and to get to Keswick.

I HOPE YOU HAVE ENJOYED READING THIS BOOKLET

THE LAKE

Rock climbing
When we went to Denton House we went Rock Climbing . It was great fun . Lots of people went. The equipment we used were karabiners, ropes, harnesses and helmets to protect our heads.

Rope
Helmet

Abseiling
Abseiling is really good fun especially when it is your first time. The equipment you need is ropes ,karabiners, HELMETS and harnessies.You can get all of these things from a mountainering shop. You can not use any old ropes because they are not strong enough.You dont have to go to a mountainering shop for a helmet, you can go to a bike shop.

rope Helmet

Places to go
If you decide you want to go somewhere in the Lake District you could go to Townend which is a old farmers house built in 1944 in Windermere. You can get in from 29 March to 3 Nov. Beatrix Potter Gallery at Main Street, Hawkshead. You can get in from 29 March to 1 Nov. It is £2.00 for adults and £1.00 for children.

The lakes
The lake district is a popular place for holidays. It is a very beautiful place to go and lots of people recomend it. If you go nine times out of ten you will enjoy it.

Bird Watcing
Bird watcing is a very enjoyable sport. Disabled people can also do it. You can find birds around lakes, marshes, bogs, rivers, woodlands and bird farms . read the list below for different speshes. Kestrel , Hobby , Peregrine , Golden Eagle , Comman Buzzard , Snowy Owl , Chaffinch and Snowy Owl. You can go to Shetlands , Scotland, North England , Southen England and the Lake District.

Binoculs

Figure 4 *The final draft. The booklet consists of a single sheet, folded at the arrows.*

Primary problems?

Peter B Hampson
Usworth Colliery Primary School

As primary teachers, I believe that we are in danger of falling into the trap of being too self-centred and forgetting what happens to our pupils once they leave our schools. Wouldn't it be dreadful if we were doing something terribly wrong yet lacked the overview of ourselves to realise what was happening? 'No!' I hear you all cry, 'It's not the primary schools that do things wrong!' But what if we *are* at fault?

The point I would like to raise has been mentioned in the past but has always been unanimously shouted down by primary teachers and advisers. Nevertheless, I feel it should be aired again, since, in my view, we may be letting our pupils down badly. So, the issue is, should primary pupils be taught to type?

Let's consider the problem, if indeed one exists. Pupils now have regular exposure to computers from the age of four until they leave the primary school at age 11, and during this time, a great deal of their computer time has to do with entering information on the keyboard, even if it is only pressing just one key, or RETURN. Pupils therefore use the keyboard for seven years, but I believe that in the majority of schools, little or no indication is given about which keys should be pressed by which hand or by which finger. The children are therefore learning, for probably over 50 per cent of their school careers, an incorrect method of keyboarding.

I am sure that most primary teachers would not see this as a problem. I myself type (badly) with two fingers and, as the saying goes, this has never hurt me. This is where the problem of our being solely interested in 'primary' matters occurs. Pupils are now entering secondary schools after seven years of computing in primary schools, but the problem *we* don't have to face is that of the children trying to learn to type – *correctly*. After discussing this with secondary colleagues I find that a problem *does* occur. Until a few years ago, pupils had little or no experience of typing so when they came to learn the skill, it was relatively straightforward. Now, however, pupils enter secondary schools with seven years of incorrect keyboarding techniques behind them and long-acquired habits are hard to unlearn.

I agree with the argument that you do not always need to be able to type correctly, but as this technological age progresses, we need to use keyboards more and more frequently and the only way to type rapidly is by typing correctly!

By now, I have probably lost all the friends I ever had in primary schools, but I shall try to redeem myself a little. I am not proposing that pupils are taught the skill of typing in primary schools as this is probably too difficult for most pupils (and staff!). I am simply suggesting that from the first time pupils use the keyboard they are made aware of various things.

At first the youngest pupils could be shown which keys to press with which hand (thus reinforcing left and right). As pupils become older they could gradually be shown which letters are best pressed with which fingers. This will mean that pupils leave primary schools with an awareness of how to type and having not acquired bad habits. This should greatly help our secondary colleagues in their future work. Now, how could anyone object to that?

Editor's note: What do *you* feel about 'keyboarding skills' in primary schools? Letters from primary or secondary colleagues on this subject will be welcomed.

Escape from *Granny's Garden* – part 2

M P Doyle
Honorary Chairman, British Logo Users Group

In part 1 of this article (MICRO-SCOPE 34) Mick Doyle explained how, for him, LogoWriter *provided 'an escape route from* Granny's Garden, *a means of wresting the control of classroom IT from the witch'. In part 2, he gives us 'the bones of* Developing Tray, *talking to the concept keyboard and* Touch Explorer Plus. *– Editor.*

Developing Tray

Pages and jotters: *LogoWriter* makes no initial demand that you enter a special 'computer-world'. Any demands that you understand files, their loading and saving, the differences between test and graphics screens and the vagaries of an 'editor' are notable by their absence. Instead, LCSI provide a more appropriate metaphor in the form of 'the page' and 'the scrapbook'.

You work on pages of a scrapbook and when they are written on, you save them – or throw them away! Once named, your page is saved on the scrapbook's Contents page, as in any book.

Paper has two sides. On the 'plain side' you may write and draw, and on the other, the 'lined' side, you may only write. If, however, you write using language that Logo understands, you can teach the computer how to do something new. When you have finished writing on your page, *LogoWriter* asks you to give it a name and then saves its contents for you.

This 'computer-use interface', as the gurus call it, is classroom-intuitive, which means that teachers and children can make sense of it. This makes sense to me too!

Talking to the concept keyboard

To this wordprocessing microworld, I persuaded LCSI to add an overlay keyboard one. This new microworld now provides the vocabulary needed to talk to the concept keyboard, which is no more difficult than sending the turtle to a particular spot on the screen. For example:

```
setkey [ 1 2 3 4 ] "|Come out, Roger!|
```

will make Concept Keys 1 to 4 print the phrase 'Come out, Roger!' when pressed.

This is less tedious than using a traditional concept keyboard editor and more powerful since it allows messages to be changed almost instantly.

An overlay is often made by dividing the concept keyboard into regular blocks, say 3 x 4 squares. In *LogoWriter* you can keep a set of 'frame' pages with the layout already set but without messages. All that is needed is to call up the required frame, add your messages, turn the text into a procedure and load it onto the page where you need it.

Touch Explorer Plus

What does *Touch Explorer Plus* really do? It prints messages on the screen if a key is pressed. Well, we've already done that with *LogoWriter*! What else does it do? Can we do multi-layered overlays? Do we understand conditionals – using the word 'if'? Let us try one possible approach using, as an example, the suggestion of a nativity scene from MAPE's 1990 *Christmas Special*. (We're only going to 'do' Joseph!)

First, set up the concept keyboard as follows:

```
clearckeys
setkey [ 7  8 ] "|Reference: MAPE Christmas
    Special 1990 pages 30 & 31|
setkey 1 (word "|make "level 1| char 13)
setkey 19 (word "|make "level 2| char 13)
setkey 5 (word "|make "level 3| char 13)
setkey 10 (word "|make "level 4| char 13)
setkey 28 (word "|make "level 5| char 13)
setkey 14 (word "|make "level 6| char 13)
setkey [ 74 90 106 ] word "Joseph char 13
ckeyson
```

which clears all existing key messages, sets up all the 'stars' to change levels, puts the name 'Joseph' on the key under his silhouette and switches the CK on. (The magic incantation *char 13* invokes a press of the RETURN key.)

Now to *Touch Explorer* proper:

```
to Joseph
   if equal? :level 1
            [ct cc print "|Joseph|]
   if equal? :level 2
            [ct cc print "|This is Joseph|]
   if equal? :level 3
            [ct cc print "|Joseph was a
                  carpenter|]
   if equal? :level 4
            [ct cc print "|I am a carpenter and
                the husband of Mary|]
            |print "print "|Who am I?| settc 0
                print " print "Joseph.
                cloze.2 [Joseph]
   if equal? :level 5
            [ct cc print "|My name is Joseph and
            I am married to Mary. I am a
                carpenter. |show "|Enter the
                missing words. |cloze [Joseph
                carpenter ] ]
   if equal? :level 6
            [ct cc print "|Use the books in the
                library to find out more about a
                carpenter. What tools does he
                use?|]
end
```

It may look pretty horrific to begin with, but look again . . . is it any worse than the second language you learned at school?

Conclusion

A little thought will show that many of the activities for which we now use separate programs can be written within the open environment which *LogoWriter* provides. Branching stories are simple, Anita Straker-type adventure games a little more complex, but the great thing about Logo is that it is open and spells an end to locked software – you are not held back by weird code and copyright. For me, it *did* provide an escape route from *Granny's Garden* and put me firmly back in control of the software I want to use in the classroom.

Further information

LogoWriter is available for the Apple Macintosh and all IBM PC compatibles, including the RM range. It runs on the Acorn A3000 and Archimedes under their PC Emulator and on RM 186 PCs under their IBM mode software. If you would like more details about *LogoWriter* and the support materials, please contact MP Doyle, BLUG, PO Box 43, Houghton on the Hill, Leicestershire LE7 9GX.

Technical re-entry into the *MICRO-SCOPE* Index

Dave Siviter
Senior Lecturer at Y Coleg Normal, Bangor, and North Wales Regional Representative

The hard work and time dedicated to indexing and producing a database of the articles in *MICRO-SCOPE* was initially undertaken by Barry Wake from the West Midlands Region in 1985. The work continued with various updates until 1988. All this original effort resulted in a *Grass* file on the Nimbus.

It seemed to me that such devoted toil should not go unrecognised nor should it fall into dereliction, since a record of the articles in *MICRO-SCOPE* is of considerable historic importance to the educational use of computers, and provides a useful resource for both curriculum planning and for anyone trying to locate articles for research.

Since the last update was in Summer 1988, there remained thirteen unindexed publications to the present date in the summer of 1991. Unfortunately, the format of the database, as *Grass* on Nimbus, was, I felt, rather restricting for me as a Mac addict. In addition to this, the main database of MAPE membership is held on Claris' *Filemaker Pro* on the Macintosh and so it seemed appropriate to have the *MICRO-SCOPE* index available in the same format.

With the assistance of Phil the brill, a programmer at Newman Software, the *Grass* file was made available as both a COMMA and a TAB delimited file on an MS-DOS disc which arrived at the beginning of the summer vacation.

Using my Mac SE30 running *DOS Mounter* and the Apple File Exchange program *MacLink*

Plus, the MS-DOS files were converted to Mac format and then imported to *FileMaker Pro* in a matter of seconds. There were over 300 records with six fields under the headings, AUTHOR, TITLE, EDITION, PAGE NO, STYLE and KEYWORDS.

As the first step towards updating the database I decided to keep the fields that Barry had chosen and to try and match his style of entry and scope of content within the fields. The work was a fairly tedious task and took a considerable time, even with the format pre-designed, making me me appreciate deeply Barry's original dedication! Due to the extra sophistication of *FileMaker Pro* it will be much easier to keep on top of the updates and to enlarge the content of the fields in future, giving more flexibility in interrogation and analysis.
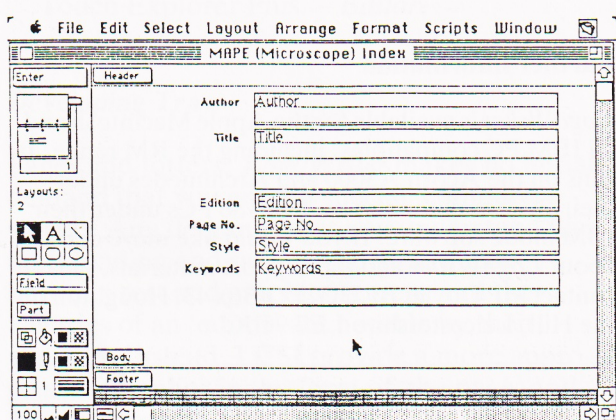
It was with some relief that I finished entering the last record for issue 33 and saved the file onto a 3.5″ Mac disc to take to the next council meeting. Only then did it occur to me that some of you 'techy' characters might like to know how the archive had come into existence, hence these notes. Besides I owed an article to *MICRO-SCOPE* so that there is guaranteed work for the next update! (*Editor's note:* Thanks Dave!)

The Index will be available via the Regional Reps, in various formats so that the data can be imported to your favourite database program in the near future.

Editor's note: There is a long term plan to put the entire contents of *MICRO-SCOPE*, from issue 1 onwards, onto CD-ROM. Renew your subscription for further news about this!)
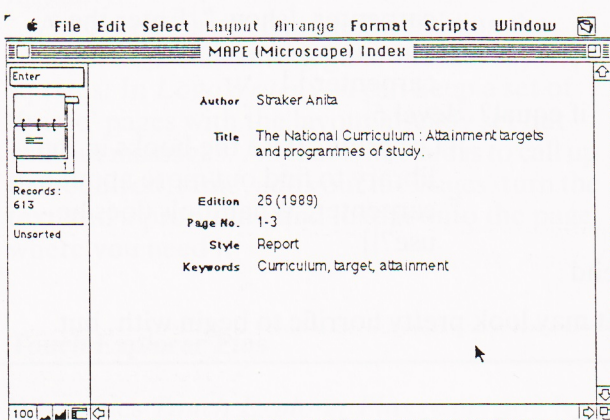

Figure 1

Figure 2

XOR

Katie Monson

In case you don't know what *XOR* is about, it is a maze game where you have to collect as many cat face masks as you can, (there is a set number in the corner of the screen) but it is not as easy as it sounds!

On the first level there are mainly just barriers (vertical and horizontal) but as there are 10 different mazes then it is hardly surprising that they get much harder!!!

There are lots of things which can get in your way, such as barriers, fishes and chickens. You can only go one way through the barriers and they disappear when you do. The fishes have to have something to support them or they will drop and kill you. The chickens are spring-loaded to the left so only a vertical barrier can stop you getting killed sometimes! But these things can also be of use to you if you use them carefully, because they can explode bombs for you. (See Figures 1 and 2.)

You see you are sometimes stuck in a room with only a chicken, a barrier and a bomb so guess what you could do? Well, you could go down the barrier to get rid of it then come out and the chicken would spring left and set the bomb off which would break through the wall and you would have a gap to go through. If you had a fish then you could do exactly the same, the only difference would be that the fish would drop downwards instead of sideways and explode the bomb.
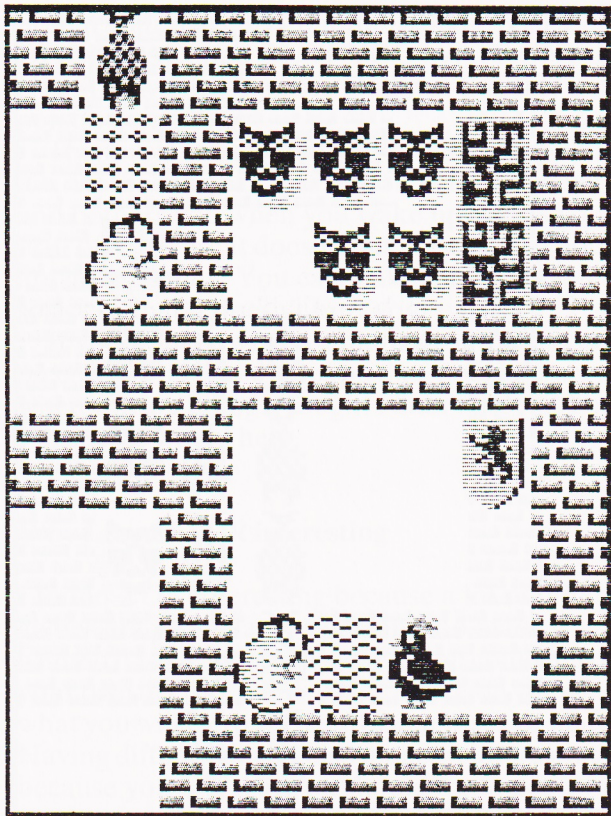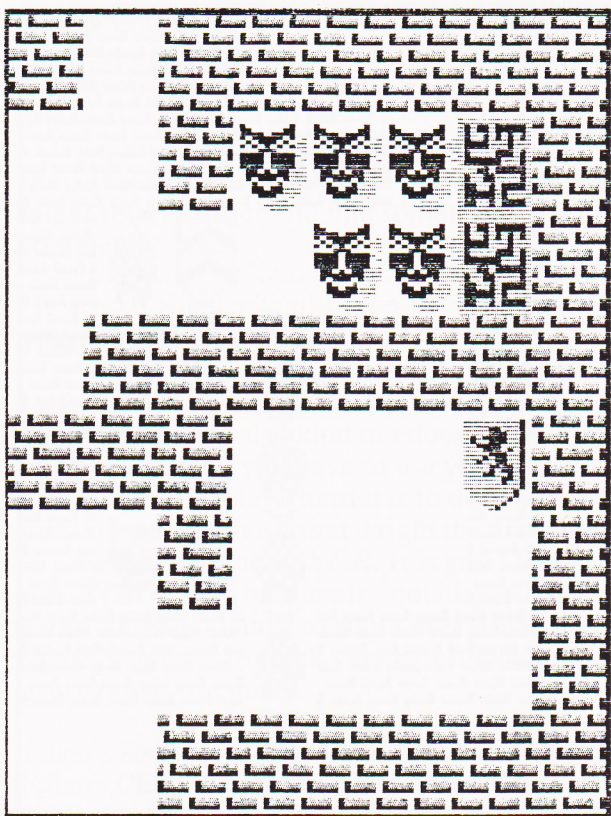
Figure 1 *Before.*

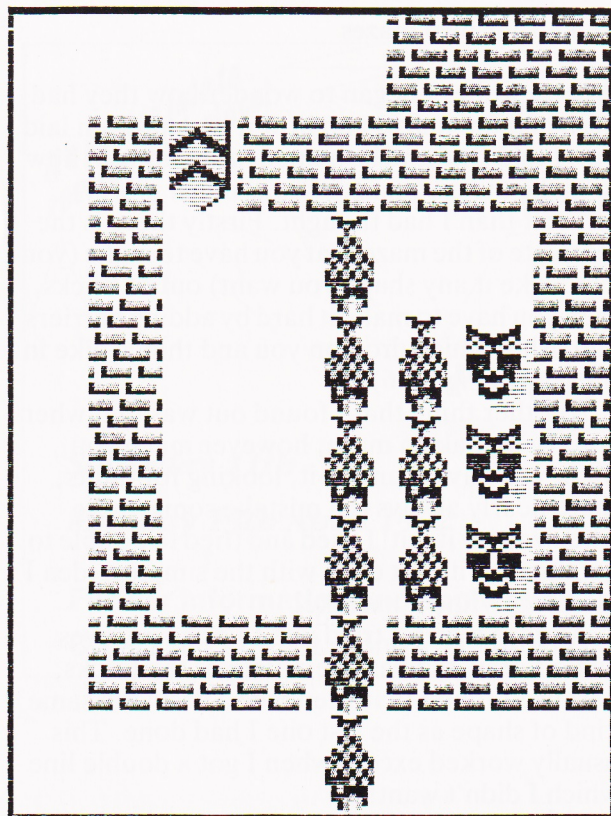**Figure 2** *After bombs have exploded.*

Figure 3 *Starting position.*

There are two different kinds of bombs, a sideways bomb and a vertical bomb. You can tell the difference because the sideways bomb is a circle and the vertical bomb is in a rectangular pot shape, and if at the moment you don't think that you will be able to tell the difference between them or that you won't be able to recognise them, then believe you me, you will!!!

Here is an easy example of how hard you have to think and how careful you have to be:

Problem

You are in a little room and in front of you are 6 fish blocking your path to the masks. At the bottom of the room is a little gap and a fish is sticking out of it (Figure 3).

The solution
You could go down to where the bottom fish is and you could push it to the right then another would fall after you moved off to the left, leaving you with a space at the top to get the masks (see Figures 4 and 5).
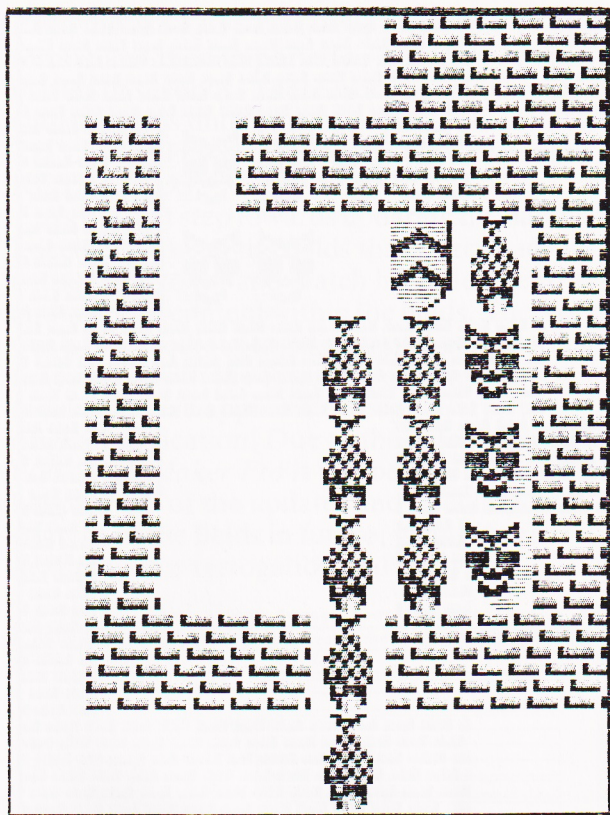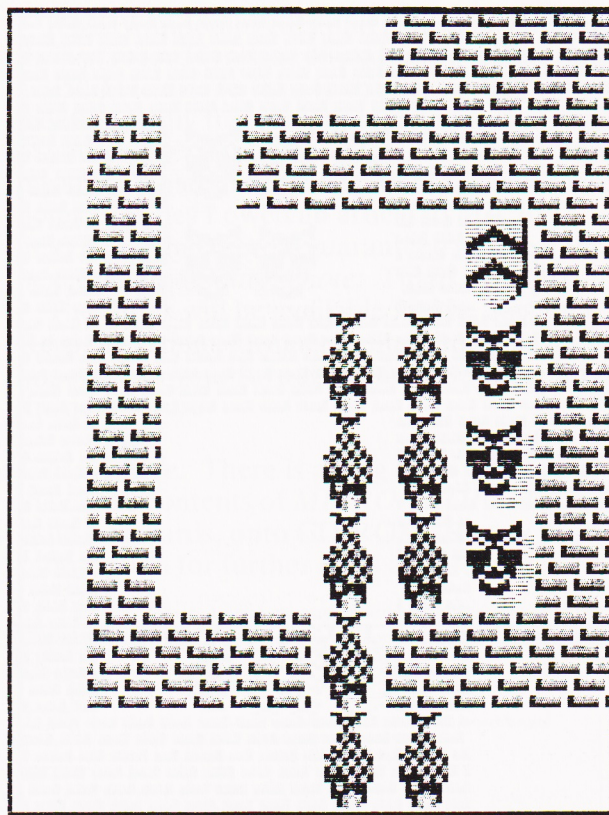
Figure 4 *The wrong way to do it.*
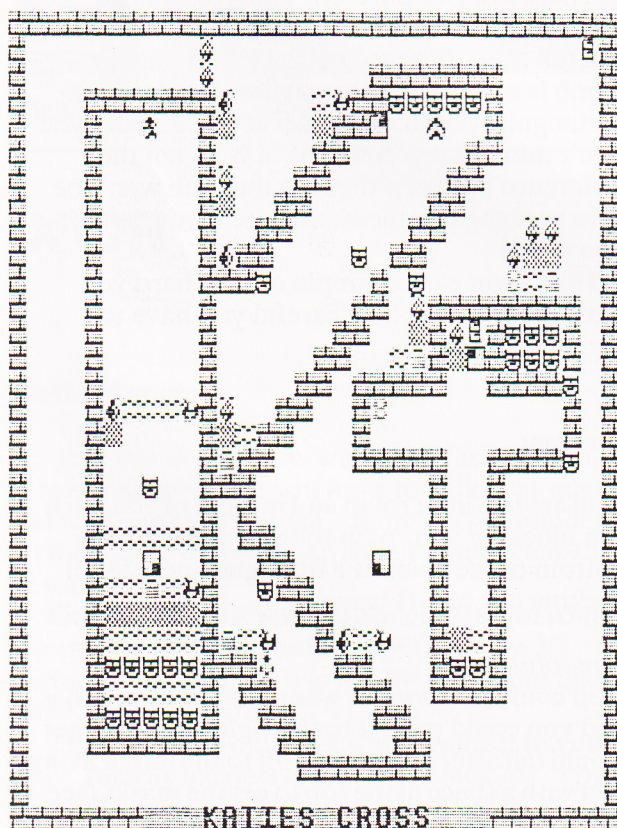

Figure 5 *The right way.*

Figure 6 *A maze which Katie designed.*

Make your own mazes

After a while, I began to wonder how they had designed the mazes and how it had all been laid out. I told Dad and he helped me to find out how to make my own maze. It was much more difficult than I had thought. Firstly there is the template of the maze that you have to make (you can make it any shape you want) out of bricks, then you have to make it hard by adding barriers and fishes which drop on you and things, like in the game (Figure 6).

Another thing that I found out was that when you try to make a maze, however much you think you have scanned it, looking for faults, there nearly always is a mistake somewhere when you try it out! I tried and tried to be able to get through it, but even with the simplest idea I can always find a mistake!

An idea which I tried was to close my eyes while I drew the basic template of the bricks, because I found that I tended to draw the same kind of shape as the last one I had done. This usually worked except when I got a double line which I didn't want!

Something to look forward to is when you go through the little door at the end when you have got all the masks. Look out here for the words of congratulation! You can do this when you

design your maze so I put things like 'WELL DONE DAD' and 'JUST YOU WAIT UNTIL NEXT TIME!!!' You see Dad was the only person doing them.

The music starts when you play the game but it is not the kind of music that stays in your head and bothers you when you wake up and as you drift off to sleep! It doesn't put you off what you are doing either. You can make it louder or softer so that it doesn't hurt your ears!!!

If you want to design a maze then there is a piece of card with squares on that you can trace, when you are doing it rough! I didn't use this but I'm sure it would help.

Why I found XOR interesting

I found XOR interesting because a lot of other games are just what the person who made it wanted it to be, not really where you could make your own decisions. You have to decide yourself what you will do to get a particular mask or map. Having different levels also makes it interesting, because you feel that you should try to get

through the level that you are on before you try the next one, although sometimes the next level may seem easier! Well, that's what I found anyway!

It's quite exciting really, because when you think you've gone everywhere there is to go, you might turn a corner and find something completely new!

Why you should try XOR

I think that you should try XOR because it's good fun and it's also kind of educational. With all the problems, you have to use your brain a lot. You find out how hard it is to design mazes and how difficult it is to get it right the first time!

I really recommend XOR. It is great fun to use. XOR is good because it's not like an arcade game where you have to shoot everything in sight! You have to think very carefully about every move you make.

Editor's note: Katie is 10 years old and goes to Naburn CE Primary School, North Yorkshire.

'And the winners are . . . !'
MAPE 10th Anniversary Competition results

Ann Liddle
MAPE Publicity Officer

The 10th anniversary competition proved very popular and 76 entries were received from all over the country.

In the category for children aged 4–7, entrants were asked to design and create a greetings card using a computer as one of the tools. The cards submitted covered a range of greetings including birthday, get well, Christmas and party invitations and were all colourful, well presented and attractively designed.

Children in the 8–13 age group were asked to present a poem which expressed how they felt about technology. When the competition was organised it was felt that this would be a very demanding task for the age group but the entries were full of imaginative, thoughtful and creative ideas.

Competition entries were judged in November 1991 by seven members of the MAPE executive. Everyone was impressed by the standard of work in both categories and the judges had a difficult task, but eventually agreed on the following winners:

4–7 age group

Winner: **Diane Williams** from St Francis Primary School, Cleveland, who designed a get well card
Runners up: **John Tunley** from Pentland Primary School – birthday card
Rebecca Barratt from Harewood Infants School, Cleveland – Christmas card

We regret that it is not possible to show the winning entries in this category, since reproducing their colourful cards in black and white would not have done them justice.

8–13 age group

Winner: **Jo Newth** from Pencoed Junior School, Mid Glamorgan
Runners up: **Alexander Luff**, Pencoed Junior School
Cathy Brown, Pencoed Junior School

Lynsey Borwell from Yarm Primary School, Cleveland
Dean Pattison from Pentland Primary School, Cleveland

The winner in each category received a Commodore Amiga 500 with *Deluxe Paint* and a TV modulator for their school, and a personal £15 gift token. The Amigas were donated by Commodore UK and MAPE would like to thank them for their generous support in making the competition possible. All runners up received a £5 gift token.

Prizes were presented in Cleveland for the northern winners and Glamorgan for the southern ones. All the entrants received a MAPE badge.

MAPE Council members would like to thank all the teachers who encouraged children to enter the competition, and congratulate all the children whose work was of such a high standard. We hope to announce another competition in *MICRO-SCOPE 36*.
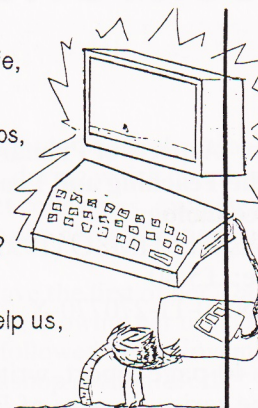
Competition entrants:

Laura Prothero, Clare Frankton, Marietje Ward, Robert Watts, Christopher Ford, Alexander Luff, Thomas Prosser, Joanne Townsend, Amy Morgan, Victoria Abel, Cathy Brown, Jo Newth, Katy Farrer, Daniel Lindfield, Laura Thompson, Patricia Rosay, Zoe Brogden, Nicole Robson, Rhian Owen, Amie Rex, Lucy Mullen, Helen Meakin, Debbie Aspin, Lloyd Dannatt, Owen Dannatt, Lucy Somers, Anna Rowley, Thomas Benham, Shaun Eggleston, Joanne Roy, Gemma Hibbitts, Eleanor Forward, Rachel Yarnell, Catherine Hill, Duncan Goodland, Rory Francis, Tim Harrison, Vicky Butler, Emma Healey, Peter Yates, Claire Way, Paul Anker, Daniel Legg, Suzanne Peniston, Jake Platt, Mark Coombe, Lynsey Borwell, Gurpreet Kaur Dhillon, Andrew Diment, Ian Beckett, Helen Smiddy, Dean Pattison, Sima Ahmed, Louise Eccles, Rebecca Barratt, John Tunley, David Flett, Martin Wardle, Steven Knight, Edwin Swain, Jennifer Gilvey, Mark Page, Stuart Milne, Chelsea and Kimberley from Cleveland, Paul Chipchase, Dominique Anderson, Ian Sivewright, Steven Lowery, Richard Harthill, Diane Williams, Stephen Toner, Rebecca Mallett, Kirsty Potts, Sarah Jane Simpson, Aaron Labonce.

TECHNOLOGY

The technology of today,
　　Is far ahead in every way.
Earth bound spaceships return from the moon,
　　And the astronauts feel its all too soon.
Computers help the scientists find,
　　Answers to the problem in mind.
High-tech parks surround our homes,
　　With shiny bright metallic domes.
New developments come apace,
　　In the technological race.
Old L.Ps are fading fast,
　　Victims of the C.D. blast.
Laser beams and medicines new,
　　Help the patients recover, phew!
Over the moon, under the
Ground,
You can be sure technology's found.

Winner, 8–13 category, Jo Newth.

Technology
Computers are a part of life,
From a very early age,
As we use them in our jobs,
In our school,
And when we play.
So what are you afraid of?
What is it that you fear?
Computers are here to help us,
Every day of every year.
Theres no doubt about,
No matter what you try,
Computers will always be here to help us
to get by,
But you'll never get a bite from a byte,
And you'll never get hit by a bit,
And you'll never get sick with a silicon chip,
So just remember this,
You're never at risk when you use a disc.

Runner up, 8–13 category, Dean Patterson.

Presentation of prizes in the 10th Anniversary Competition.

Book review

Title: **Aspects of Primary Education:
        The Teaching and Learning of Information
        Technology**
Publisher: HMSO (1991)
Price: £5.40
ISBN: 0-11-270770-X

This 40-page report, written by HMI, is the 10th in the series *Aspects of Primary Education*. It is a review of the state of Information Technology in primary education based on visits to 216 schools between 1987–89.

I am writing this review having just returned from the RESOURCE Conference. I spent the day looking round the exhibition and came away feeling somewhat depressed. Bombarded with both literature and demonstrations of the latest hardware and software, I left feeling totally bemused. Working with new technologies puts you in a similar position to the donkey chasing the carrot; colour printers, hard disc turnkey systems, CD-ROM players, exciting new software – all creating new learning curves for the teacher to master. With this in mind, it was a pleasure to read the HMI report. It is based upon classroom observations; HMI report what they see. It is a salutary reminder that new technology applied to the classroom is what counts, not the dreams of hardware and software designers exhibited at conferences. The report will serve to reassure many schools that they are developing IT capability along the right lines; an incremental process that supports and complements sound educational goals; although the report points out that not all schools have identified those goals in writing nor planned for their delivery in the form of a written policy. The report is a combination of comment based upon observations, particular case studies (looking at each of the four stands within IT Capability) and advice regarding the best way to move forward.

Perhaps the best way to give a feel for the report is to reiterate one or two of the key observations.

- With respect to IT coordinators in schools, 'leadership concentrated more on marshalling resources than on curriculum development, and few schools produced explicit policy statements.' Since these visits many schools have made considerable headway with policy statements; the question is now about ensuring that they are implemented and not just collecting dust in some filing cabinet.

- In terms of the applications that HMI observed, 'data-handling, control and Logo applications produced some of the most exciting work, but only slight use was made of them'. Perhaps a greater provision of in-service training in these areas may solve this criticism.

- Although HMI found that good practice was rarely seen consistently throughout a school, they did report that the incidence of such practice was on the increase. The report also adds the comment that good practice does not necessarily depend on the latest software/hardware initiatives; the key is how imaginative teachers utilise the resources at their disposal!

Given this sound advice, is there anything missing from the report? The authors provide brief case studies of a number of different classroom activities that were observed. Unfortunately the hardware or software that was being used at the time is not listed; hence other schools that may want to emulate this work may face a considerable amount of detective work. Looking through the photographs in the report, for example, it is possible to identify *Stylus, Grasshopper, Front Page Special Edition, PaintSpa*, Logo, *Contact*, Roamer and control work with a Deltronics box. If software is listed, the report could 'date' very quickly; on the other hand it would be reassuring for schools to note which software was being used in those lessons which HMI considered to constitute 'good practice'.

The report is concise, very readable and full of sound advice. It is both reassuring while at the same time challenging, particularly, for example, with respect to the question of recording pupils' progress. The messages within the report are directed at all staff; the reflective practitioner cannot avoid questioning their own practice as a result of reading the report. It should be circulated and read by all staff.

Roger Keeling
Newman and Westhill College

MAPE regional news and events

Chiltern Region

Chiltern members, where are you? By mid-January only one person had phoned to say they were coming to our meeting on 1 February and so, regrettably, we were obliged to cancel it. Nevertheless we will still be holding a workshop morning on Saturday 4 April. If you would like to come to this, or have any suggestions for how your regional committee could serve you, please contact me at any time on 081 866 0827.

Betty Lumley

Scotland

Our St Andrew's Day Conference at Riverside Teachers' Centre took as its theme 'IT's environmentally friendly'. Opening the conference, Maggie Allan, Senior Deputy Director of Education, Central Region, demonstrated how IT could support issues raised in the 5–14 discussion paper on environmental studies. Throughout the day, delegates attended an impressive selection of workshops and presentations on badge-making, programmable toys, introducing Apple, teddies, writing, design, Apple *Treasure Hunt*, laptops, spreadsheets and control. The success of this worthwhile day was due in no small part to the hardworking team from Riverside Computer Centre – many thanks to all concerned!

1992 started with the nomination of new members to the steering committee and involved farewells to Anne Campbell, Peter Pearson and John McLean. Although she is resigning from her energetic and committed chairmanship of the group, Anne will still be a member of the committee, Peter has raised Tayside to the status of one of the most lively local groups in Britain, and John has been our overworked treasurer for many years. We would like to thank them for their support in the past and look forward to their continuing involvement in future events, albeit from the fringes.

Events to look forward to include a Scottish newsletter, a series of local events and information about our annual day conference, which will probably be held in Fife.

The new Scottish Chairperson is Anne Foster, Inverkeithing Primary School. If you would like to know more about Scottish MAPE, contact Anne on 0383 412066.

Anne Foster

Ireland

During the present academic year, MAPE Ireland has organised a number of evenings in the Mountcollyer Technology Centre, Belfast, by courtesy of the Belfast Education and Library Board.

Our traditional Open Night in September was a Wine and Cheese evening, during which members had an opportunity to meet colleagues, exchange views and ideas and also to see demonstrations of some recent software.

In October, June Best gave the first of her *Touch Explorer Plus* presentations, showing her usual flair and enthusiasm. This was followed up in November with a very successful workshop session. Both sessions were very well supported and we are grateful to June for her time and effort.

We are currently preparing for our annual regional Conference, to be held as usual in Stranmillis College on 7 March. Bookings are well advanced and we are looking forward to a range of workshops and presentations, drawing on the expertise of local members and guest speakers from the National Committee.

The final event of our year is our BP Oil Primary Schools' Competition. We are extremely grateful to our sponsors, BP Oil, for their very generous support for this annual event.

Members should note that the categories for the competition have been adjusted this year:

Category A: P1 and P2; Category B: P3 and P4;
Category C: P5 and P6; Category D: P7
Category E: Special Education;
Category F: This is a new category open to class projects from teachers within the first three years of their teaching career.

Entrants are required to submit a class project in which Information Technology has been used to enhance and enrich the Primary Curriculum. Area heats are currently being organised in the Education and Library Boards and Area winners will go forward to the Regional Final at Stranmillis College in June 1992.

We are still trying to start a self support group for MAPE members in the greater Dublin area. If you would like to be involved in setting this up or would like to be informed about future events, please write to Pete Young, Taughmonagh Primary School, Belfast BT9 6QL.

Ron Cromie

South West

Spring term events:

Graphics and Design, 4 March, at Exeter University.
Data Handling, 11 March, at St Andrew's Primary School, Cullumpton.
Text Handling, 26 March, at Lipson Vale School, Plymouth, 4.30–6.00.
Measurement and Control, 8 April, at Exeter University, 9.30–4.00.

Summer term events:

Concept Keyboards and Special Needs, 3 June at
    Exeter University and 17 June at Lipson Vale
    School, Plymouth, 4.30–6.00.
    A day conference on Dyslexia and Specific
Learning difficulties is being arranged at Exeter Uni-
versity.
    For further details of this and any other events
contact Chris Taylor on 0392 264828. We would also
like to start groups in North Devon and Cornwall;
please contact me if you are interested in hosting
events in these areas.

Chris Taylor

South East

'What is the course on?' the lady on the other end of
the phone asked.

'It isn't a course,' I replied. 'It's a fun day.'
'Yes,' she persisted, 'but who's the teacher?'
'There's no teacher,' I said, 'just me.'
I could hear the confidence ebbing away!
    On the day (2 November) only three people turned
up (I don't think the Rugby World Cup Final had
anything to do with it!), but all four of us had a good
time, exploring the joys of two art packages for the
Archimedes.
    For MAPE Central London and Greater London
members, it might be useful to note that Eileen
Jaques, based at ILECC, specialises in RM
Machines. I am based at Merton Court School, Knoll
Road, Sidcup, and 'specialise' in Acorn machines.
Contact Eileen or me with suggestions for the
activities you would like to see taking place in the
South East Region.

Chris Price, co-representative, South East Region

MAPE software news

MAPE software is distributed free of charge only to
those people who are members at the time of publica-
tion. However, those who subsequently join may still
obtain copies of the software at favourable rates.
(Please note that all software prices include VAT.)

MAPE Tapes 1–3 (now on disc) were produced a
number of years ago. A selection of the better
programs has been collated in order to produce:

The MAPE Compendium
Micro: BBC, RM480Z, RM Nimbus*
Cost: £14.00 (non-members); £10.00 (new members)
Programs include *Canal Locks, Mangonel, March,
Mallory Manor, Crackit, Mousey* and *Front Page
Extra* and other old favourites.
    *A Nimbus version of a number of early MAPE
programs is available for £6.00 to members and
£10.00 to non-members.

Also available:

MAPE Disc 4
Micro: BBC, RM480Z
Cost: £12.50 (non-members); £8.50 (new members)
This includes:
    BBC: *Pond Dipping, Magic Telephone, News
        Bulletin* and *Topol.*
    RM480Z: *Adventure Story* and *Adventure
        Editor, Picasso.*

*MAPE Disc 5: The Owl Pack (software and
resources)*
Micro: BBC, RM Nimbus
Cost: £14.50 (non-members; £9.50 (new members)
A3000 version from Newman Software.

MAPE Disc 6
Micro: BBC B and Master, RM480Z (*Orb of
    Zalibar* only), RM Nimbus

Cost: £14.50 (non-members); £9.50 (new members)
MAPE Disc 6 includes *Stylus*, an introductory word
processor and *The Orb of Zalibar*, an adventure
game.
    Stylus Plus is now available for the BBC micro.
This is a modification to the original version of the
program, in which the Talk option has been removed
and replaced by the facility to
block move text. Anyone who would like this version
in addition to their existing one can acquire a copy by
sending a blank 5.25″ disc together with a cheque for
£5.75 and a 9″ x 6″ sae (50p postage).

MICRO-SCOPE

ESP Science Special
Micro: BBC
Cost: £12.50 (non-members); £8.50 (new members)
ESP is a BBC computer program which allows
children to become involved in data-logging at a basic
level using a simple analogue interface.

Special Needs Special (booklet)
A booklet giving details of different aspects of using
a computer in special needs teaching.
Cost: £2.00.

MAPE Pin Badges: £2.95 each (discount on bulk
    orders).
MAPE Mouse Mats: £3.50 members, £4.00 non-
    members.
LEA bulk purchase price (10 or more copies) –
    30 per cent off the non-members price.
    LEA licences also available.
All prices quoted include VAT at 17.5 per cent.
Post and packing included, except on bulk
    purchasing.

Please send orders (include information about the
type of micro) to:

    MAPE Software, Technology Centre,
    Newman College, Bartley Green,
    Birmingham B32 3NT.

    Cheques should be made payable to MAPE.

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