

MICRO-SCOPE

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SUMMER 88



Menu Making

A Term Of Owls

Turtling Without Tears

Telling Tales Together On The Word Processor

NEWMAN COLLEGE WITH MAPE

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MICRO-SCOPE 24

MAPE Conference 1988

Senga Whiteman
Newman College

This year's conference was held at Grey College, Durham from 25th to 27th March. There were approximately 280 delegates. Those who had attended previous conferences and who were accustomed to making new friends while queuing for meals were amazed to find that there were none (queues, that is; friends and meals were plentiful). Grey College catering staff won a special award for their efficiency and also for the quality of the food. The conference went extremely well thanks to the organisation of Anne Liddle, Dave Whitehead and a team of helpers. Delegates (well, those who booked early) had been able to elect to attend one of five themes, or a range of presentations. There was also an opportunity for theme members to attend an occasional presentation. As usual many people wished that they had been able to attend all the themes and all the presentations – the quality of all activities was excellent. MAPE would like to thank everyone who contributed to the themes and to the presentations and to thank the keynote lecturers for making the Conference such a successful event.

Dave Kitching wrote the following report about the first two keynote lectures:

'A Child and a computer . . . the experiences of a young scientist' – Dr Richard Dorrance, and 'Intelligence Speaking' – Dr Michael Thorne (A personal view of two of the main lectures presented to the MAPE Conference 1988 at Durham University.)

To lecture to a large audience must be a difficult thing to do; to lecture to a MAPE Conference with its large and diverse audience must be a very difficult thing indeed. The 1988 Conference was addressed by two eminent men, two people very much part of the 'education' scene and both

involved in the process of children's learning, but each from a slightly different point of view. One lecturer was Dr Richard Dorrance, who spoke from the viewpoint of the child and teacher (the school and the system), trying to come to terms with the computer in the context of a specific and particular curriculum area, although this had relevance across the curriculum. The other, Dr Michael Thorne, spoke from the expert's viewpoint, very aware of the possibilities of the computer and attempting to contain and manipulate that power so that it can be usable in our work with children.

Dr Richard Dorrance spoke of science in the primary curriculum and the possible role for the computer in that important area of our work. He began by asking a question: 'Why does science frighten people?'. He stated that it should not be found frightening because it is basically about just two questions: 'Why?' and 'What happens if . . . ?'. He reviewed the current state of the National Curriculum Science Working Party and urged us all not to be worried by it because their recommendations are 'friendly' and sympathetic to primary practice. The science curriculum is to emphasise investigations and the development of the skills and knowledge which we need to understand and respect our environment. The science approach will be integrated with other curriculum areas, and it will be child-centred, the essential elements being the development of knowledge and understanding, of skills and attitudes. As the teachers of primary science we were urged to take children's ideas seriously – to adapt and modify the original ideas of children, and also to encourage children to develop the ability to 'control variables' and to devise a 'fair test'.

Kenneth Baker's brief to all the National Curriculum working parties was that all subjects should promote good written and spoken

English and numeracy and that, in addition, science should include 'the *practical use of the computer*'.

Dr Dorrance was interested in computers doing the hard work, the dull tasks, so that children would be freed from the constraints of, for example, mathematical ability, in order to concentrate on the problem in question.

He described a number of probes and sensors that he had developed which could be attached to the computer to assist scientific investigation; there were sound sensors, light sensors, temperature probes, timers etc (and even a speaking thermometer!). If used in a realistic way these tools could be used to help children think, to draw conclusions, and to improve understanding.

He suggested that we might like to try and make these sensors ourselves!

Dr Dorrance concluded that computers are natural tools, but that we should not use them just for the sake of it, and also, if we are to use them well in our classrooms then we must have access to a greater number. He left us with the question 'How do you know when your cat is happy?'

The following day we were addressed/entertained by Dr Michael Thorne of University College, Cardiff. His theme was 'Intelligence Speaking' and developments in ICAL – Intelligent CAL. A very remote topic for most primary teachers.

He defined intelligence as 'what you need to read computer manuals', and illustrated this with some fine examples of nonsense. Some people have it and some people don't.

The components of intelligence are knowledge, the ability to reason, and *creativity*. Using these components a computer was programmed to write a Mills & Boon-style story. The important ingredients of this are: 1) an aura of mystery; 2) a touch of class; 3) a smattering of religion; and 4) a soupçon of sex. Using a vocabulary of 30,000 words it generated 'My God said the Duchess I'm pregnant. Who dunn it?'

Dr Thorne said that the state of the art in AI computing was often thought to be the computer's ability to understand and play chess. Then he went on to describe ARAM and the work of Dr Ralph Martin in Australia, who has developed a 'robot sheep shearer'! Fewer men are taking to the shears to earn a living in Australia because the work is so hard, and therefore mechanical/robotic/computer alternatives are being developed. It sounds terrifying – but the sheep seem to like it and actually sleep whilst being sheared and, amazingly, are on average only cut once by the robot as against 19 times by a man!

In the teaching environment ICAL developments were seen to be flexible but complex, qualitative rather than quantitative, centred on a tutorial strategy rather than task analysis and being developed from the theories of learning. Logo was used as an example of simple ICAL software in which the student learned by doing.

The complexity of the ICAL model was demonstrated by Don Walton who had attempted, during a 30 minute period, to use Papert's Logo-type procedures to learn to juggle! He found it *very hard* but the result was entertaining to watch.

Dr Thorne showed us a program called *Micro Proust* which has a conversation with a programmer as it identifies 'conceptual errors' in his programming. Then similar projects were described including work being done in Wales in the 'Welsh Expert Systems In School Project'. Students/children are given expert systems shells on the computer and then write in their own rules to create their own knowledge bases in the Arts and Sciences.

The development of AI and Expert Systems in UK schools is far less extensive than in many other countries and with the passing of MEP the developments they made have now lost their cutting edge and impetus.

The NOLOG System was described as an attempt at ICAL for use in schools; it is a complex development based on the 100 square which is to be the basis for problem-solving work and it would be of value both in the nursery and at GCSE level.

Mike Thorne concluded by urging us to 'watch out for intelligent CAL and to be aware that it was being developed almost everywhere – except in the UK.'

I found both lectures interesting and stimulating. It was good to have the two differing viewpoints, the contrasts were valid and illustrate how complex is the technology that we are attempting to come to terms with in our classrooms. The implications of its introduction and development could be far-reaching and important for all those concerned – especially the children.

* * *

The final session of the Conference is usually delivered to a somewhat depleted audience, but not this year. Everyone was interested in hearing the HMI point of view as presented by Gabriel Goldstein. The main points of his lecture were as follows:

Primary computing is one of the strengths of education in this country. Even so, certain factors militate against progression. These are caused by lack of space, equipment mobility (or lack of it), and affected by such factors as

shortage of electrical sockets and the need for security.

HMI are seeing better quality in the use of computers. This includes:

- a) Text handling with the emphasis on improving the quality of the writing, unhappily, however, they still see classrooms where the wordprocessor is used mainly at the *final* stage in compiling a document – to improve its presentation rather than to refine content;
- b) Control technology which, although difficult to manage, does offer opportunities for problem-solving in a context which was previously difficult to provide.
- c) Adventure games, although the use of these is slightly decreasing due to other demands made on the equipment.
- d) A growing band of users are becoming involved in Logo but, as Gabriel pointed out, 'They never get past lesson 15'. He made a plea for teachers to get in touch with him if they can demonstrate that their children have developed concepts through the use of Logo that they would not otherwise have developed.
- e) The use of drill and practice programs is decreasing. There is a role for this type of software only when it provides a safe environment for practice which satisfies a particular need.

HMI are *not* seeing much quality work with calculators in primary schools. They are being used as computational tools but not to detect patterns or relationships or to solve problems.

Gabriel went on to outline the ESG (Educational Support Grant) scheme. £20 million has been allocated to appoint advisory teachers whose role will be to spread good practice. Approximately 600 teachers will be appointed, 260 primary, 260 secondary, and the rest for special needs. The scheme will run for two and a half years. Evaluators will be looking for evidence of progression – that children are being asked increasingly demanding questions rather than merely using more complicated programs.

Gabriel suggested that the national curriculum should lead to a better awareness of some of the things we want children to do and whether or not they are performing to the best of their abilities. It is not about strict criteria of what should be taught about IT but it is about development and assessment of the use of IT to access progressively more challenging curricular objectives.

The aims of IT in the primary curriculum are:

1. To enrich learning and promote both autonomous study and group work;
2. To help all pupils to be confident and sensible in their use of IT;
3. To help all pupils understand some of the consequences of IT for the individual and for society.

During the years of compulsory schooling all pupils should be offered the following experiences:

- a) Capturing, storing, accessing, changing, and interpreting ideas and information;
- b) Measuring and controlling environmental variables/phenomena (though there is still a need for first-hand experience);
- c) Creating, appreciating, designing and making in the aesthetic/creative/technological spheres. (We must do whatever is appropriate for where we are; some of these activities will take place over a number of years but the school needs to plan.)
- d) Solving problems, particularly those involving the detection of relationships and those involving the performing of a task subject to constraints;
- e) Investigating and constructing abstract computer models representing reality;
- f) Understanding the impact of IT and the information explosions on the individual and society.

Gabriel went on to itemise what we can reasonably expect of primary schools without destroying what they are about. Pupils leaving primary schools should:

1. Feel at ease with IT and be competent in operating the equipment, including a variety of input devices in their school and elsewhere;
2. Have experiences controlling an IT system and using it purposefully to achieve a desired outcome;
3. Understand that IT has many uses and has both strengths and limitations;
4. Have developed the confidence to select and use IT tools when appropriate.

If these outcomes are to be achieved then we need to record something about the way children respond to IT. If the recommendations of the TGAT report on the National Curriculum are adopted, IT and information handling could sit comfortably within its proposed structures for assessment.

To conclude Gabriel re-emphasised the point that we need to look at progression. We need to increase the demands we make of the children using the software and not just offer increasingly sophisticated software.

Overall the message from this lecture was positive. We have made a good start but now we

need to involve colleagues in an unthreatening way and ensure that the child is offered a range of progressive IT experiences. The ESG teachers have a tremendous role to play in ensuring that good practice spreads.

* * *

Themes

There were five themes. Delegates at conferences like to participate in the activities but very few of them are keen to write anything for *MICRO-SCOPE*. However George Blanchard wrote about his experiences.

Theme: *The 1999 Manila to Darwin Ski Wave Race*

'No, sorry folks, that's off!' So began another adventure with Mike and Judith Matson. 'Now what?' I thought. 'Is he having us on?' 'Was it a deliberate plan to confuse everybody?' Then it dawned on me. He was asking us to think creatively. I looked round the other worried

faces. Yes, there they were. Unmistakable signs of panic. 'And another thing,' said Mike, 'You are not leaving here tonight until you have told us what you are going to do.'

Then, gently, carefully, he and Judith teased and conjured ideas out of our tired minds and settled on the idea of an oasis. Our worlds, our very own real worlds could be created. But how were we to be grouped? How could we do it? How were we to be linked together? Further ideas emerged, they were discussed and gradually we settled on the idea of a tunnel under the Pennines, with a museum at its entrance, which provided us with a way in to our worlds. Three groups were formed and then, on Saturday morning, the micros were switched on and so to wordprocessing, screen design, as our world became concrete.

Finally, a public thank you to Mike and Judith for another superb thought-provoking weekend.

(Those delegates who attended this theme are going to pursue the exploration of this hidden world with their classes and exchange information and ideas.)

GRIST and its Impact on One Authority

Stan Norman
Nottinghamshire LEA

Ask anyone involved in education what they think of GRIST and you will get a response which varies from total ignorance, 'GRIST – what's that then?'; to misunderstanding, 'it's about time they paid them a decent wage; from despair, 'worst thing that ever happened to teachers'; to enthusiasm, 'best thing since sliced bread'.

So what is it and why are there such a wide range of feelings towards it?

What is it?

Grant Related In-Service Training was introduced by the present government in April 1987 and replaced the existing arrangements for secondment pooling, specific grant in-service, and TVEI-related in-service. Under its arrangements the government withheld from local authorities a sum of money from the rate support grant. They then invited LEAs to bid for this money which could only be used for teacher training purposes. In addition the Secretary of State identified 19 specific training areas which were referred to as national priority

areas (see Appendix A). Training areas which fell outside national priority areas were referred to as local priority areas. Each authority was then given details of the total allowance they could spend on each national priority area and on all local priority areas. Virement between national priority areas was allowed up to a maximum of 10%. Money spent on national priority areas attracted 70% funding from central government with the LEA paying 30% whilst money spent on local priority areas attracted only 50% funding. In the case of Nottinghamshire the total expenditure for national priority areas was some 1.7 million with some 2.5 millions for local priority areas. Thus the total budget of 4.2 million was made up of some 2.5 million from central funds and 1.7 million from the LEA.

For the financial year 88/89 the Secretary of State has announced details of 24 national priority areas (see Appendix B). Thirteen of them apply directly to schoolteachers with eight referring to FE teachers and the remaining three referring to all teachers and to youth and community workers. The total budget for 88/89

has been set at £207m as compared with £200m last year. (It should be noted that this includes the LEA contribution.)

In Nottinghamshire, for example, the total allowance for the national priority area 'new technologies across the curriculum' was £87,000 in 87/88 and this has been increased to £103,000 in 88/89.

Why are there so many different responses?

In trying to understand why the GRIST scheme has had such a mixed response it is necessary to bear two things in mind. Firstly it was not new money; many authorities regarded it as bidding for their own money since it had been generated by holding back rate support grant. Secondly authorities were free to interpret the regulations in their own way and, talking to colleagues from other LEAs, it is evident that there are almost as many GRIST schemes as there are authorities. Rather than try to paint a national picture I therefore propose to describe only the impact that GRIST has had on Nottinghamshire.

In deciding to write about GRIST and its impact on Nottinghamshire I am doing so because I feel both proud and excited to be part of what I believe to be an innovative scheme and because I would like colleagues in other authorities to gain a flavour of what is possible.

It needs to be said that for Nottinghamshire GRIST came along at the right time and the scheme that now operates in this Authority is the result of a process of evolution that has been going on for several years. It also needs to be stressed that Nottinghamshire used GRIST to expand the money spent on the professional development of its teachers. It could have chosen, quite legitimately, to spend the money made available through GRIST to pay for the existing provision which roughly matched the grant available. Instead it chose to treat it as new money, pay for the existing support infrastructure through its own resources and use the grant solely for directly funding the training of its teachers.

The professional development strategy adopted by Nottinghamshire is based on a number of principles, the first of which is that teachers learn best what they perceive they have a need to learn rather than what someone else feels is important, and that the focus of those needs should be within the classroom. The individual needs of teachers should then be located within the development needs and priorities of each school. Implicit in this is the necessity for effective needs identification

within institutions and the communication of those needs to the Support Services. Thus it is that every school within the authority has been visited by senior members of the Support Service to clarify and communicate their development needs.

The extra money made available through GRIST allowed the authority to give every school an allocation of cover days equivalent to two days for every full-time member of staff, along with a budget for subsistence and travel equivalent to £35 for every member of staff. The responsibility for deciding how to use the cover time and money was devolved to individual schools. Each school could then use the resources made available on any training activity which is defined as 'any planned activity which contributes to improving the professional effectiveness, knowledge or understanding of teachers'. Releasing a member of staff to work in a colleague's classroom, visiting another school, bringing in a teacher from another school to work alongside staff, attending an in-service course or conference, are all examples of how schools have used their resources. In addition there has been some central resourcing which has been used to pay the costs of any inset providers where more than one school has been involved in the event. This policy was adopted in order to encourage schools to work together wherever possible.

Matching professional development spending to national priority areas is necessary in order to satisfy the conditions of the Grant. This task however is carried out by clerical staff at County Hall and is based on the assumption that if the Secretary of State was right in deciding on the national priority areas then teachers would identify those same areas, if they were allowed to identify their own professional development needs. In order to keep track of spending and to match it against the national priority areas schools have to complete an in-service event form before they can spend their resources. This administrative necessity has been viewed by some as a burden which blocks flexibility but it does help to ensure that activities are planned.

The scheme that operates within Nottinghamshire is a bold venture which views teachers as professionals striving to improve their practice and sets out to treat them as such, investing in them the responsibility for their own professional development. I would not wish to suggest that it has solved all the problems or found all the answers. What is exciting and significant is not so much the size of the step it has taken but rather the direction in which it has chosen to stride.

Appendix A**National Priority Areas for 1987/88***School teachers*

1. Training in organisation and management in the context of the responsibilities of headteachers and other senior teachers in schools.
2. Training in the teaching of mathematics.
3. Training to meet the special educational needs of pupils with learning difficulties in schools.
4. Training related to industry, the economy and the world of work.
5. Training in the teaching of science.
6. Training in the teaching of craft, design and technology (CDT).
7. Training in teaching and the planning of the curriculum in a multi-ethnic society.
8. Training in the teaching of microelectronics and in the uses of microelectronics across the curriculum.
9. Training in the teaching of religious education.

Further Education Teachers

10. Training related to industry, the economy and the world of work.
11. Training to develop competence in the teaching of technical, commercial or professional subjects in the light of recent developments in industry, commerce or the professions.
12. Training in organisation and management in the context of the responsibilities of teachers in further education.
13. Training to meet the special educational needs of further education students with learning difficulties.
14. The training of teachers engaged mainly or entirely in the provision of advanced further education (AFE) in polytechnics and certain other institutions.
15. Training in the teaching of microelectronics and in the uses of microelectronics across the curriculum.

School and Further Education Teachers

16. Training for the General Certificate of Secondary Education (GCSE).

School and Further Education Teachers and Youth Community Workers

17. Training to help combat misuse of drugs.
18. Training for youth and community workers.
19. The training of educational psychologists.

Appendix B**National Priority Areas 1988/89***Summary List: school teachers*

1. Training in organisation and management in the context of the responsibilities of headteachers and other senior teachers in schools.
2. Training in the teaching of mathematics.
3. Training in the teaching of science.
4. Training in the teaching of craft, design and technology (CDT).
5. One year training courses in mathematics, science and craft, design and technology.
6. Training to meet the special educational needs of pupils who have disabilities of hearing.
7. Training to meet the special educational needs of pupils who have disabilities of sight.
8. Training to meet the special educational needs of pupils who have severe learning difficulties.
9. Training for 'designated' teachers to meet special educational needs in ordinary schools.
10. Training related to industry, the economy and the world of work.
11. Training in teaching and the planning of the curriculum in a multi-ethnic society.
12. Training in the uses of new technologies across the school curriculum.
13. Training in the teaching of religious education.

Further Education Teachers

14. Training related to industry, economy and the world of work.
15. Training to develop competence in the teaching of technical, commercial or professional subjects in the light of recent developments in industry, commerce or the professions.
16. Training in organisation and management in the context of the responsibilities of teachers in further education.
17. Training to meet the special educational needs of further education students with learning difficulties.
18. Training for FE lecturers in the teaching of information technology (IT) and in the integration of IT across the curriculum.
19. Training in teaching and the planning of the curriculum in a multi-ethnic society.
20. The training of teachers engaged mainly or entirely in the provision of advanced further education (AFE) in polytechnics and certain other institutions.
21. Training in the assessment of achievements.

School and Further Education Teachers and Youth and Community Workers

22. Training to help combat the misuse of drugs.
23. Training for youth and community workers.
24. The training of educational psychologists.

The Oldest Fear

Christopher Price

When I was much younger, taking my A-Levels, I used to go out a lot to parties. If I wanted to make an impact with the people there, or I needed a conversation piece, I would tell them that I was studying Latin.

The effect was generally quite gratifying. Glasses dropped. Faces fell. People turned round and said, 'What?'.

They do much the same when I say I teach Computer Studies. Only now the effect is tinged with awe. This is surprising because, as a programmer, I am very average, and the programs we use are not particularly arcane. Many of our parents, though, are in the grip of that oldest of fears – fear of the unknown.

Our school is a small preparatory establishment and all the children, from three years upwards, get a chance to use the computers. Slowly I had a succession of parents come up to me and, rather shamefacedly, ask me to explain what it was their son/daughter was doing. Needless to say that, by this time all the children were getting on famously with the 'pooters'.

As an example of this I would direct you to one of our three-year-old classes. In front of the computer they look rather like a loose maul in an unruly rugby match – all pushing and shoving trying to get to the front and, 'Me first!' and 'He's had two goes an' I've only had one!'

The parents sit or stand in an uneasy semi-circle, well away from the computer, trying hard to pretend it's not there.

A man I once knew ran classes for companies who wanted to train up their employees on

computers. He let me read his training manual. Page One began, 'Touch a key. Now touch another key.' I nearly died laughing – until I ran my first parents' evening and found out how true it was. That old spectre, the fear of the unknown, had raised its ugly head again.

So I took a deep breath and began. I told all the parents that there was nothing to be afraid of, that the computer couldn't bite back, and that there was very little chance of their breaking the computer. Then I left them to it. Soon we'd found all of Granny's children, printed a few letters with *Wordwise*, written our own *Front Page*, and *Podd* had nearly been driven to the point of a nervous breakdown. We'd even started to investigate databases and spreadsheets. Everyone went home feeling a lot more confident.

I suppose this is really what I wanted to talk about. Computers, as far as most parents are concerned, are still a confusing topic. They don't slot neatly into one particular area of the curriculum, and still don't seem to have shaken off their bad reputation as 'games boxes' with no educational value. This is an attitude born totally through ignorance, and the only way to deal with it is by educating people. (Haven't you heard that somewhere before!) We still need parental support here. *You* know that computers can be useful. *I* know that they can be useful. Parents have to be shown that they are useful. Then, perhaps, just perhaps, we'll put a stop to the nonsense of one 'Beeb' per school.

Telling Tales Together on the Word Processor

Graham Peacock
Sheffield City Polytechnic

In the general excitement surrounding word processors in the primary classroom there have been few attempts to find out whether children use them differently from the more traditional writing medium of pencil and paper. There have been several reports in *MICRO-SCOPE* (e.g. issues 14 and 19) that describe children working with word processors but there have been few attempts to directly compare writing done with computers and the same task done with a pencil. Even though a keen advocate of the use of word processors myself, I find it disturbing that there was probably more debate about the use of biros instead of fountain pens than there has been about the introduction of word processors.

One aspect of writing with word processors which has received particular attention has been collaborative group writing. One of the main reasons for this seems to be teachers' need to make efficient use of a scarce and expensive resource by offering hands-on experience to two or more children at a time. Collaborative writing using any means has great benefits. These include the excitement of producing writing together, pooling ideas and suggestions and the social benefits of working co-operatively. But do we need a word processor to get the children talking, reviewing and co-operating? Could this be done just as well using the traditional methods?

Working alongside colleagues in Brightside First and Prince Edward Middle schools, with children six to eight years and eleven to twelve years respectively, I set out to find if the way children went about their collaborative writing differed according to the medium they were using. It is important to note that the children were relatively inexperienced with the word processor but had been using a pencil for between two and six years.

When using the word processor, did the children:—

- share ideas and words more freely;
- review and alter their work more;
- take more care with spelling and punctuation;
- produce work of better quality;
- type as quickly as they could write?

Using an observational method developed jointly with Neil Baker of Redscope School in Rotherham, I watched twelve groups of children, writing collaboratively, over a period of several weeks. The dominant activity for each child was noted every 20 seconds as they were writing in the group. In all cases the children were co-operating to produce a single piece of writing which they later regarded as common property with each taking a copy.

Sharing ideas

I was particularly concerned to see if the children suggested new ideas or words more often when using the word processor, but surprisingly the frequency with which the children talked about ideas for their writing was about the same when using either the word processor or pencil. In fact, the older children shared fewer ideas when wordprocessing than they did when writing with a pencil.

Reviewing writing

The children reviewed their writing from both the screen and paper by reading it aloud. In all groups there was always one child who seemed to do this for the other group members. The frequency with which the children read aloud from the screen was identical to that for paper, being on average once every two minutes for first school children and once every four minutes for 11–12-year-olds.

Spelling and punctuation

The interest shown in their spelling and punctuation by members of the group when word-processing was much greater than when the same group was handwriting. The six- to eight-year-olds were recorded as being twice as interested in ensuring that the wordprocessed work was properly spelt and punctuated than they were with the handwritten material. The middle school children were recorded as being ten times as involved in this aspect of writing with the word processor than with a pencil.

Quality and length of writing

Six panels of teachers judged a selection of twenty scripts which were made indistinguishable by being typed in identical formats. The teachers were asked to grade the scripts from best to worst in the quality of their communication. It emerged that on average, the wordprocessed scripts were thought to be slightly superior to the handwritten work.

Writing done under similar conditions resulted in wordprocessed pieces that were slightly longer than the comparable written examples. However, the time taken was considerably greater.

The speed with which children wrote using a word processor was also noted. It must be remembered that the children were relatively unfamiliar with the keyboard.

Average number of words written in ten minutes

| | <i>First School</i> | <i>Middle School</i> |
|----------------|---------------------|----------------------|
| Pencil | 25 | 116 |
| Word processor | 19 | 83 |

What does this mean in practice?

This is a report of some preliminary observations but it raises some interesting points about using new technology in place of old and the process of writing by young children.

Just putting a group of inexperienced writers together with a computer does not seem, of itself, to improve the level of the children's interaction within the group. If teachers are to develop interactive group writing, the process of developing and refining a piece of writing seems to be a skill that needs to be explicitly taught rather than being left to chance.

The unstructured approach, where children learn to use the word processor through simple need, may have to be reviewed because the length of time needed to become sufficiently familiar with the word processor's facilities is not available in most schools where there is at best one computer to one hundred children. Whether teachers need to produce simple exercises where children develop pieces of ready-typed prose from simple beginnings to more elaborate versions is open to debate. Miles (1986) has done this for lower secondary with some success. Starting with 'the cat sat on the mat', pupils in Miles' school first added some extra words, then phrases, so that they gained practice in adding to and deleting from the screen.

Clough (1987) shows how this can be done for science reports. He reports that the response from children reading their peers' work can be a

potent incentive to revision and improvement. The teacher could suggest that writing is first planned by the group using either conventional means or the word processor. This plan is commented on by the teacher or pupils and the first draft is then prepared. The process of peer review would then help to refine the writing which could be altered with great ease on the word processor. None of these suggestions is new but the similarity of the children's method of work using the word processor and pencil makes it likely that it is equally applicable to work produced by use of either method.

The observation that children took greater care with spellings on the word processor reinforces the view that children take a great deal of pride in their printed writing. This, paradoxically, is not all good news. Do we want word processors to be used for making children more pernickety about presentation and spelling? Don't we want children to be freed from the more mundane parts of the writing task to develop more fully as writers?

The fact that children with so little word processor experience could type so quickly was surprising. The 6-7-year-old groups typed at over 75% of the speed at which they were able to write. Clearly, with more practice, it will not be long before they are at least matching their progress with pencil. The children were keen to use the word processor as evidenced by the greater length of the printed writing against the handwritten work. This may simply be a result of novelty or evidence of greater commitment to the printed work.

If the attention paid to the word processor and collaborative writing results in a more thoughtful approach to group writing, whatever the medium, it will be worthwhile. However, there does seem to be an uncritical romanticism abroad that the word processor will usher in a golden age of children's writing. This is not borne out in this limited survey. The high level of activity that goes on around a word processor screen may not be an indicator of high levels of creative interaction. It may be little more than concern being voiced about the finer details of already fixed writing. The word processor can be either a seductive toy or it can take its place as a tool in the classroom being no better than pencil and paper but different. It may be that the word processor is useful for particular tasks for particular children, such as children with a low self-esteem or poor motor control, or conversely for groups of very able children to extend and challenge their ability to use writing to communicate fully and at length. Has the time come where teachers need to target word processor time and resources more accurately at those who

would benefit most from its use? Practical issues of fairness are clearly going to prescribe how far an individual teacher can go in one classroom but the policy of one first school that restricts the use of the word processor to the older children thereby ensuring adequate opportunities for at least all children at some stage is worthy of consideration.

References

- BASKERVILLE (1985) 'Wordprocessors and the development of children's written language' in *MICRO-SCOPE 14*.
 CLOUGH (1987) 'Word processing in the classroom and science education' in *Primary Science Review*, 5.
 MILES (1986) 'Terminal English' in *Sheffield City Polytechnic Language Development Centre Newsletter*.
 PEACOCK (1986) 'An interim report on the introduction of a word processor in two inner-city first schools' in *MICRO-SCOPE 19*.

Grass and Adventure Games

Paul Kennerley

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Grass and Adventure Games: Can they be used together?

YES!

End of Article!

But seriously folks! The following is a description of how I blended together *Grass* on the Nimbus, and the *Advedit* and *Advstory* programs from MAPE Tape 4 for the RML 480Z.

Firstly databases are not, in my opinion, intrinsically interesting to third- and fourth-year primary children and the teacher wishing to use *Grass* successfully with such children needs to address the problem of interest. Enter He-Man!

In my experience, both as a parent and as a teacher, children seem to be very interested in He-man. This applies equally to boys and girls and thus He-man provides the teacher with some very good material for a database.

The database I compiled about He-man had seven fields and the following is a sample record:-

| | |
|-----------|----------------------------|
| NAME | Whiplash |
| TYPE | Creature Crocodile |
| BEHAVIOUR | Evil |
| SKIN | Green |
| ABILITIES | Very powerful lashing tail |
| WEAPONS | Tail Laser Staff |
| CREATIVE | |

The CREATIVE field has been left empty on the database to allow the children to enter their own creative data, e.g. how far they think the character could throw a spear; how much they can lift in kg; how tall they are, etc.

For those teachers not fully conversant with the Planet Eternia may I suggest that the children be asked to collect and compile the data? The database I compiled had 43 records and this is by no means exhaustive. (A further sample of the He-man database can be seen at the end of this article.) To complement the database and to allow progression in the children's use thereof the following question sheet was compiled:-

GRASS DATABASE HEMAN

General questions.

- 1) Find out what the FIELD names for each RECORD are.
- 2) What can the database tell you about Sucking Leech?

One FIELD questions

- 3) Find the names of all the good characters. Print these characters out in alphabetical order.
- 4) Find all the names of the evil characters. Print these characters out in alphabetical order.
- 5) Which characters have green skin? Do some of these characters have other colours on their skin?
- 6) Which characters have green skin only? Which characters have green and other coloured skin?
- 7) Which characters use a crossbow? Do some of these characters use other weapons too?
- 8) Which characters use only a crossbow? Which characters use a crossbow and another weapon?

Two FIELD questions

- 9) Find the names and the weapons of all of the good robot characters. Print their names in alphabetical order with the weapons they use.
- 10) Find the one evil robot in the database. Print out as much as you can about the character.

- 11) Find the evil characters which are creatures and print out their names in alphabetical order with their abilities.
- 12) Find the good characters which are creatures and print out their names in alphabetical order with their abilities.
- 13) Find the good characters which can fly. Print out everything, except their skin colour, but have their names in alphabetical order.
- 14) Which of the creatures you found in question 13 have purple in their skin. Print out everything you can about these creatures. What sort of creature are they? What is the biggest difference between them?

Three FIELD questions

- 15) Find the characters which are good, human and use a laser as a weapon. Print out their names, behaviour and weapons but put their weapons in alphabetical order.
- 16) Find the characters which are evil, human and use a sword as a weapon. Print out their names, behaviour, weapons and abilities but have their abilities in alphabetical order.
- 17) Find the characters which are good, have green skin and are good at doing something. Print out their names and abilities.

Who kidnapped Teela?

The 'Who Kidnapped Teela?' story is a variation on the 'Who Shot the Sherrif?' idea published a few years ago. This is where the database search is presented in a different format to the straightforward question. In the original 'Who Shot the Sherrif?' the data was concerned with fictional cowboys and the 'question' took the form of a cartoon of the culprit who had shot the sherrif. The children had to glean visual data from the cartoon and then use the database to discover the identity of the culprit. If I had used the same format with 'Who Kidnapped Teela?', it is quite possible that the majority of the children would have known the culprit by sight. This is because the He-man figures are visually very distinctive. Another format was needed and a 'story' was chosen:-

Prince Adam was sleeping peacefully when he was woken up by a scream. He recognised the scream as coming from Teela. He thought she must have been having a nightmare so he got up and walked into her bedroom. When he opened Teela's bedroom door he noticed a piece of green skin was stuck to the door handle and he was shocked at what he saw. All the furniture was broken and thrown about the room. It looked as though lasers had been fired in the room. Teela's bed was in a terrible state and Teela was not there!

Prince Adam realised she had been kidnapped so drawing his Sword of Power he changed into He-man and began to look for the culprit using the clues he had discovered.

With the clues He-man already has he should be able to narrow the search down to three characters. Who are they?

He-man knew he needed more clues so he had a closer look at Teela's bedroom. After an hour of searching he noticed that Teela's bedstead had been lashed with something very powerful. He-man now knew who had kidnapped Teela!

Who had kidnapped Teela?

The children had to glean from the story that the database needed to be searched for SKIN including GREEN, WEAPONS including LASER, and ABILITIES including LASH.

When this was tried out the children read the whole story first and a large number of them guessed it was Whiplash. Some fancy footwork on my part had to be quickly thought of to shake the children's belief that Whiplash was guilty and to convince them that there was a need to use the database at all. When I evaluated this I decided it would be best to provide two clues in the story at first and only to make available the third and decisive clue when the children came to me with a short list of possible culprits. This would be achieved by splitting the story physically into two parts.

This was when I was introduced to *Advedit* and *Advstory* for the 480Z at Newman College. It immediately struck me that this was an ideal format for the 'Who kidnapped Teela?' story as it, by its very nature, released clues one at a time. The 'Who kidnapped Teela?' story was transformed into the following adventure story using *Advedit* which runs on *Advstory*.

HEMAN

Page 1

You are Prince Adam and you are sleeping peacefully when a terrible scream wakes you up. Do you get up and investigate or take no notice?

- 1 Investigate (page 2)
- 2 Ignore it (page 3)

Page 2

You recognise the scream as coming from Teela. You walk to her bedroom. Do you rush in or look carefully for clues?

- 1 Rush in (page 5)
- 2 Look carefully (page 4)

Page 3

You turn over and fall asleep. Two hours later Man at Arms wakes you up and tells you Teela has been kidnapped. You decide you had better see if there any clues in Teela's bedroom.

- 1 Go to Teela's bedroom (page 4)

Page 4

You notice a piece of green skin on the doorknob as you enter the room. The room is in an awful mess and Teela is missing. What will you do?

- 1 Look for clues (page 7)
- 2 Rush off and look for Teela (page 6)

Page 5

You burst into the room and notice that it is in a mess and Teela is missing. Do you look for clues or rush off to search for Teela?

- 1 Rush off (page 6)
- 2 Look for clues (page 7)

Page 6

You rush off and look for Teela. Use the information you have got and the data file HEMAN to find the culprit.

Would you like a chance to start again?

- 1 Start again (page 1)

Page 7

You look around the room and notice a lot of scorch marks and shredded fabric. Have you got enough clues to rescue Teela?

- 1 Yes, I have (page 6)
- 2 No, I need more information (page 8)

Page 8

You examine the bed and notice some small fragments of what looks like a feathery substance. Do you take them for analysis, look for more clues or rush off to rescue Teela?

- 1 Analyse fragments (page 9)
- 2 Look for more clues (page 10)
- 3 Rush off to rescue Teela (page 6)

Page 9

You use the database to find out who the feathers belong to. Do you arrest this person or look for more clues?

- 1 Arrest this person (page 11)
- 2 Look for more clues (page 10)

Page 10

You look more carefully at Teela's bed. You notice a strange pattern of indented marks on the bedstead. Do you look more closely or are you satisfied with your clues?

- 1 Look more closely (page 14)
- 2 I know enough (page 6)

Page 11

The database should have shown that the feathery fragments belonged to Stratos. Check the database again – is he likely to be the culprit?

- 1 Yes. Stratos is guilty (page 12)
- 2 No (page 13)

Page 12

Man at Arms laughs at you and says Stratos couldn't have done it. "We were together last night, are you suggesting that I would kidnap my own daughter? You must restart, Heman."

- 1 You must apologise and restart (page 1)

Page 13

You made a wise decision. Everybody knows that Stratos is good. You think over all the clues you have unearthed. Have you enough clues to rescue Teela or do you need some more?

- 1 I have enough clues (page 6)
- 2 I need more clues (page 10)

Page 14

You get your pattern decodometer out and point it at the pattern. It registers the presence of lash marks. You now have enough evidence to identify the kidnapper. Consult your data.

- 1 Check if you are right (page 15)
- 2 Start again (page 1)

Page 15

You may check your answer by contacting the Sorceress. The best way to do this is through your teacher.

Are you correct?

- 1 Yes (page 16)
- 2 No (page 1)

Page 16

Well done!

You go to Whiplash's lair and confront him with the evidence. He confesses, and realising he has met his match, hands over Teela.

- 1 Another go (page 1)
- 2 Ask about the feathers (page 17)

Page 17

Whiplash laughs and says he is glad the feathers fooled you. "That is why I put them there!" he says with an evil grin on his face.

- 1 Start again (page 1)

The children were still searching the database for SKIN including GREEN, WEAPONS including LASER, and ABILITIES including LASH. The FEATHER clue was there to confuse and force a restart on the children. This restart facilitated practice in starting a new search and encouraged the children to see the database as a tool to be used how they saw fit rather than as a program with only one way through.

The following points are worthy of note:–

1. The children were excited by the adventure and this gave them encouragement and a reason to use this database.
2. The opportunities for language development are enormous. The children should work in groups of at least two.
3. The children were using a three-field search technique with a database in reality but in their minds they were solving a simple adventure.
4. Although the adventure has to be workable the teacher should remember that it is simply a vehicle to enable the database to be used. Do not get obsessed with an over-complex adventure!
5. The provision of a false clue, e.g. feathers in the Teela adventure, requires the children to restart the search and develops the idea that you only get from a database what you ask of it.

6. This particular scenario does require two machines, in this case a Nimbus and a 480Z.
7. The *Advedit* and *Advstory* programs are not available for the BBC but the idea is workable with any adventure generator.
8. The children could develop their own scenarios which they could enter into the *Advedit* program. This would require them to have a very good knowledge of

databases and how they work if only one suspect is to be singled out by the clues. Thus a link with creative language work is made.

If I have whetted your appetite I hope you try this and other database ideas involving adventure games. Please let me in on your ideas at the above school address.

Further samples of the He-man database

Records from the HEMAN file

| | | |
|-----------|-----|---|
| Name | (A) | :He-man |
| Type | (A) | :Human |
| Behaviour | (A) | :Good |
| Skin | (A) | :Flesh |
| Abilities | (A) | :Strongest man in the universe. :She-ra's twin brother |
| Weapons | (A) | :Sword of Power |
| Creative | (A) | : |
| Name | (A) | :Prince Adam |
| Type | (A) | :Human |
| Behaviour | (A) | :Good |
| Skin | (A) | :Flesh |
| Abilities | (A) | :Cowardly but can turn into He-man |
| Weapons | (A) | :Sword of Power |
| Creative | (A) | : |
| Name | (A) | :Buzz Off |
| Type | (A) | :Creature Bee |
| Behaviour | (A) | :Good |
| Skin | (A) | :Yellow Brown |
| Abilities | (A) | :Flying |
| Weapons | (A) | :Pincers Axe |
| Creative | (A) | : |

| | | |
|-----------|-----|----------------|
| Name | (A) | :Sucking Leech |
| Type | (A) | :Creature Frog |
| Behaviour | (A) | :Evil |
| Skin | (A) | :Green |
| Abilities | (A) | :Sucking |
| Weapons | (A) | :Crossbow |
| Creative | (A) | : |

| | | |
|-----------|-----|-------------------------|
| Name | (A) | :Roboto |
| Type | (A) | :Robot |
| Behaviour | (A) | :Good |
| Skin | (A) | :Blue Red Purple Silver |
| Abilities | (A) | :Changeable weapons |
| Weapons | (A) | :Axe Claw Laser |
| Creative | (A) | : |

| | | |
|-----------|-----|---------------|
| Name | (A) | :Mantenna |
| Type | (A) | :Creature |
| Behaviour | (A) | :Evil |
| Skin | (A) | :Blue Red |
| Abilities | (A) | :Pop out eyes |
| Weapons | (A) | :Crossbow |
| Creative | (A) | : |

| | | |
|-----------|-----|----------------|
| Name | (A) | :Grizlor |
| Type | (A) | :Creature Bear |
| Behaviour | (A) | :Evil |
| Skin | (A) | :Brown Hairy |
| Abilities | (A) | :None |
| Weapons | (A) | :Crossbow |
| Creative | (A) | : |

Turtling Without Tears

The DTI/MESU Floor Turtle Project

Ron Mills and Janice Staines
Project Co-ordinators, MESU

A joint initiative between the DTI and MESU has meant a sudden influx of floor turtles into selected education authorities throughout the UK. The overall aim of the project is to explore and illustrate the ways in which the use of floor turtles can enhance the learning experience of pupils across the age range.

In the Spring of '87 local authorities were invited to submit bids to take part in the project. In their bids the authorities outlined the ways in which they planned to use the floor turtles to explore particular areas of the curriculum. The

selection process was made particularly difficult since so many good bids were received from LEAs. The final choice was made to ensure an overall balance between the aims of the individual LEAs and the project as a whole.

As a result of this, at the end of the Summer Term 1987, some 350 Valiant and Jessop turtles were sent out to 19 participating LEAs, ready for use at the beginning of the Autumn Term.

An additional sum of money, granted by the DTI, has made possible the inclusion of Trekker robots from Clwyd Technics. These are



being used to extend the scope of the project to include an element of control technology. Four authorities are involved in this aspect of the project; two of these are using them as an additional element of their floor turtle activities, and the other two as their sole focus. Since the project was set up, Clwyd Technics, in order to allow Trekker to be operated in a more user-friendly environment, has produced an extension disc to be used with Logotron Logo. This has been supplied to the four authorities using Trekkers within the DTI/MESU project and will shortly be more widely available.

Areas within the project are wide ranging and include collaborative work involving Initial Teacher Training establishments and Local Education Authorities. In Northern Ireland, the five Education and Library Boards are working together in a co-operative project which will ensure the dissemination of project experience and teaching materials throughout the province.

All the local projects are placing a strong emphasis on support for the classroom teacher. This is being achieved through regular meetings which give the teachers an opportunity to share experiences and discuss common issues. Nationally, a regular newsletter aims to provide a vehicle for keeping all the LEAs in touch with what is happening in other regions.

Although the project is still in its early stages, some interesting issues and approaches have begun to emerge. For example, in Birmingham the emphasis of the project is on the use of the floor turtle with Special Needs children. Following initial practical difficulties in setting up the project, the group is now well established, meetings have been held and plans jointly developed.

Methods used to introduce the turtles have been varied but tend to share a common theme; a 'concrete' environment is created for the turtle to 'live in'. At Uffculme School, the turtle is given an environment linked directly to one found within the school grounds. There is a small urban farm sited at the school and the turtles will 'live' in a model of the farm which is being built by the children. The story 'Rosie's Walk' is being used as introduction and background. The turtles become animals on the

farm and have to move around as the real animals do.

Many groups have shown interest in using the Concept Keyboard with younger children as a means of driving the floor turtle. As a result they have been trialling programs called *Turtle Concepts* and *Concept*, both of which will shortly be available from MESU. *Concept* allows the teacher to create overlays for use with the Concept Keyboard in a very straightforward and easy-to-understand way. *Turtle Concepts* allows the overlays created with *Concept* to be used with Logo and also gives some sample files to use as starting points.

One of many interesting 'spin offs' from using the floor turtle is the creative writing which has been produced, for example:-

Timothy the Turtle

by James Matheson,

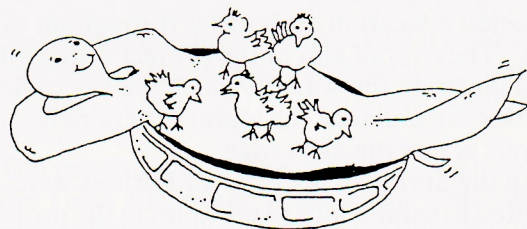
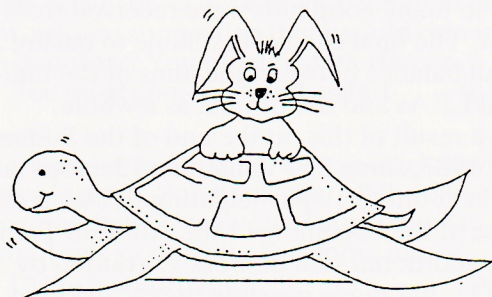
St Margaret's Primary School, Durham

Once upon a time
Timothy lived in a dream
Then he came to school
With his home made fuel
When he came inside there was a big noise
From some tremendously noisy girls and boys
He was put down on paper and told to use his brain
He was used for half a week and had an awful pain.

As the teachers and children gain experience and confidence with using the turtles and Logo, the implications of integrating their use into the existing curriculum, or indeed how using the floor turtle might actually change the existing curriculum, start to be discussed. It is these issues that we hope will feature in future newsletters. If you have any comments that you think will be of interest to the project groups please send them to the address shown below.

If you would like further information about the DTI/MESU Floor Turtle Project or you wish to be put on the mailing list for the project's newsletter *Turtle Tales*, please contact:

Maureen Quigley, Information Officer,
MESU, Unit 6, Sir William Lyons Road,
Science Park, University of Warwick,
Coventry CV4 7EZ (Tel: 0203 416994)



Logo, Word Processing and Turtle Mini-Worlds

Sue Sloman

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I first became interested in Logo in the summer term of 1986. Until the previous term I had no interest in computers at all. I was teaching a mixed class of reception and middle infants, and could see no real value in the drill and practice programs available. Then, in the spring, an A3 concept keyboard arrived together with *Writer*, a simple word processor. Suddenly a world of creativity and imagination opened up, and I saw the possibilities of how I could make overlays to suit needs at any ability level. I developed a strong interest in word processing across the curriculum involving as many areas, (mathematics, science) as suited the topic at the time. With *Computer Art* (a simple concept keyboard graphics program), and *PenDown* (a more advanced word processor), links with shape and mathematics became stronger. When I heard about Logo, and read and understood the concepts put forward, I immediately saw links with my work in word processing. Throughout the spring term I had been encouraging the children to learn by discovery. In word processing there is no sense of failure as children use the editing process to delete and change, rearrange and manipulate the text, until finally they have what they want. The finished product has been discovered, achieved and expressed in their own way, far removed from a teacher-directed activity. These same principles are fundamental to the use of Logo. Already I could see word processing and Logo as different aspects of a new method of thinking and learning. Both are totally compatible, each with much to offer the other in reinforcing logical thinking and learning with initiative.

Half-way through the summer term preparatory work for Logo started in earnest. In PE and movement times, many directional games were played in the playground and hall. Directional songs were found for music, and a few made up! Rhymes involving left and right, forward and back, were remembered or invented and practised on the classroom carpet. I used *Computer Art* to make pictures which the children could build and change. They constructed their own scenes by moving shapes directionally across the screen. These scenes were described using *PenDown* overlays and the

ensuing use of the cursor keys for editing purposes again reinforced directional activities.

In the following September I kept my previous year's reception children. My middle infants moved to top infants and were replaced by a new reception class. In the afternoons, before all the new reception children came into school, we discovered how to control BigTrak. My aim was not to provide any answers, but to let the children discover for themselves. During experimentation the first question that arose was 'How far is forward 1?' The children had been trying to use BigTrak to knock down a pile of bricks. They had already tried too short a distance followed by too great a length. The need to estimate and predict had arisen. It took the children some time and much discussion, much chalking on the floor and much marking on lengths of paper, to eventually realize that 'forward 1' involved BigTrak moving forward one length of itself. I had to exert full self-control not to tell them the answers when I felt it was obvious. I was rewarded eventually by knowing that they really understood what they had found out by trial and error. After having decided that using BigTrak itself as a measure was a bad idea, they drew around BigTrak's shape on card and cut out the replica. Then they were set for estimation and measurement. The children soon found that they needed to understand rotation. We made a large 60-minute dial which illustrated FD, BK, LT and RT, and had a single hand for direction. A smaller replica was made for BigTrak's back. We watched how BigTrak rotated on its middle wheels and spent time rotating ourselves. We could have spent much more time with BigTrak. The possibilities for activities are endless. However, our Valiant turtle arrived, and I felt we were ready.

I have spent much time explaining how the children developed an understanding of 'forward 1'. This understanding I believe to be fundamental and it has had the strongest influence on the design and programming of my floor turtle overlays.

Naturally as the concept keyboard was our aid for word processing, I felt that this should be our method of driving the floor turtle. I realized that I could put what I wanted on an overlay, and

that a series of overlays could be produced to suit the various stages of developing ability. The problem was finding a suitable program to drive the turtle, and then a successful method of making a concept keyboard overlay file and linking it to the driver. The first program I used was *Dart*. *Starset* from A&B Marketing proved to be a suitable interface program for the making and linking of overlays. The system worked. The steps on the overlays were programmed to represent multiples of a Valiant turtle length. I chose four sizes of rotation, 15, 45, 90 and 120 degrees. These were depicted on the overlay together with a turtle-shaped 'GO' key, pen up (PU), pen down (PD), delete, space and a musical hoot for fun.

quickly on the spot it was impossible to count the tiny movements. This was accepted and a small dial was placed on the turtle's back. The hand on this dial was turned to the left or right whenever the turtle rotated. The angles on the concept keyboard overlay were represented on the dial. The child driving the turtle decided on the turtle's movements by standing behind the turtle. Its movements were indicated first by the child's own body movements. We watched as the pen traced the turtle's journey all the way back to his Lego home.

The children were fascinated by taking the turtle for journeys. Then one child suggested, 'Couldn't we make him somewhere nice to go? He ought to be under the sea.'

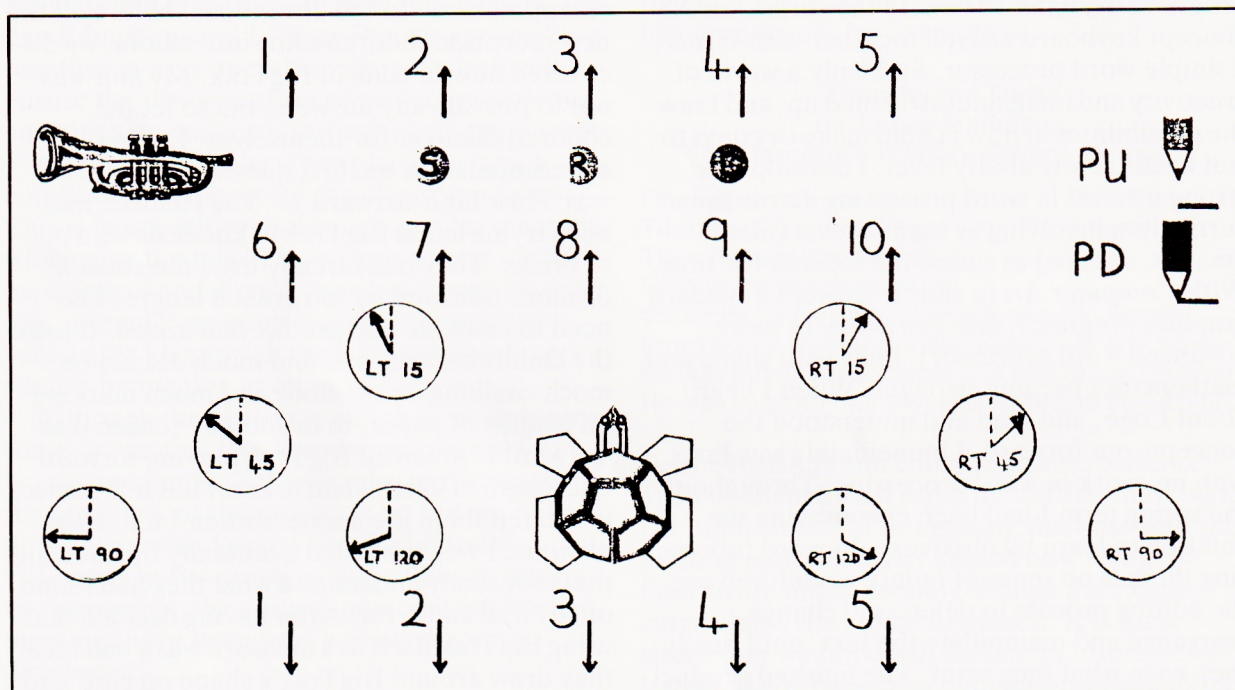


Fig. 1 An example of a concept keyboard overlay.

The Valiant turtle was placed on a very large sheet of paper on the floor. I had no pre-conceived idea about what we were going to do. The children decided to move the turtle forward and then back. So the overlay was studied and then experimented with. A Lego house was placed on the floor.

'That's his home,' said one child.

'Let's take him on a journey,' said another. 'Where to?'

Another child quickly fetched his model.

'To the castle,' he said.

So the turtle set out on his journey. Rotation was soon required and I produced a turtle dial similar to BigTrak's but representing 360 degree rotation. With BigTrak a full turn to the right would have been RT 15, but, with the floor turtle it would now be RT 90. I explained that when the floor turtle rotated he made even tinier movements than BigTrak. As he turned so

It was decided that we should stick together eight large pieces of blue card, and we would draw fishes, an octopus, shells, seaweed and a cave, and make the turtle a huge undersea picture to explore. This was great fun. Different coloured pens were used for the different journeys made, visiting all the sea creatures. The children had produced a 'mini-world' for the turtle to explore. He acquired the name 'Fred' which was later changed to 'Turbo' when he became a tortoise and explored a huge picture garden made by the children. The children's imagination had developed so far that it felt natural to make a *PenDown* overlay allowing the children to write about the turtle's adventures. Some lovely stories were written, printed and illustrated. A complete turtle project developed and as many areas of the curriculum were involved as suited the topic.

I do not see Logo as an isolated mathematical activity. I see it linked into the curriculum in as imaginative a way as possible. Our approach to Logo has followed this pattern over the last year. A number of mini-worlds have developed. One of the latest has been 'Postman Turtle'. A large road scene was made. Letters were written by the children to each other and then the turtle took them on his back along a row of painted houses, via the post box and post office, and then to the correct house, where the letters were read. A shopping expedition could be organised in this way with actual 'shopping' taking place. A *PenDown* overlay could be used to write about the event.

In between mini-world adventures, the children experimented in making a 'magic journey', a shorter journey that was written down and turned into a procedure. As I was using *Dart* as a driver and wished to appear to be using Logotron Logo (for compatibility with the juniors), I had designed the overlay deceptively to hide the *Dart* commands. Logo commands were written on the overlay although *Dart* commands were programmed (i.e. *END* replaced *ESCAPE*). The screen was always switched off. In effect we were working in Logotron Logo. However, conceptually, lists should have followed after commands and before procedures. Lists in *Dart* are impossible to organize on an overlay that is intended to represent Logo. I certainly could not find a way of doing it.

I decided to find a Logotron Logo driver that would operate with a concept keyboard interface. Then my problem would be solved. Fortunately Logotron had just brought out a new extension disc that contained a serial drive called *uVAL*. To my delight it would operate with *Starset* and the Valiant turtle. *uVAL* also contains several new commands – *FLOOR*, *BOTH*, *SCREEN* and *SETSCALE*. *Setscale* allows you to set whatever length you require to a turtle step (forward 1). I set this step to be the length of the turtle. With *uVAL* the children could list and a 'magic journey' could be performed after a series of commands had been entered and the 'GO' key pressed. It was not necessary to make a procedure and *SAVE* at this stage. As there is a scale set in *uVAL* the number of jumps indicated on the overlay can be seen on the screen as for example, *FD 3* or *BK 7*. I consider that this is quite acceptable and that the screen may be left on for the children to read and check. This enables deleting when necessary and is another advantage of using *uVAL* rather than *Dart*. I produced two further overlays. The first involved making procedures, and the second was designed to be a bridge to the final stage, that of leaving the concept keyboard and

using the computer keyboard. My first Logo children, now top infants, are using this last overlay to draw shapes and simple pictures, i.e. a house, from plans they have made up beforehand. At this stage they can make up their own angles of rotation.

The final addition to the set of overlay files has been the introduction of musical procedures to indicate *FORWARD*, *BACK*, *LEFT* and *RIGHT*. There are two different tunes for *FORWARD* and *BACK* and an alternation of two high notes for *RIGHT* and the same, three octaves lower, for *LEFT*. A single beep has been added at the end of each turtle step: a high-pitched one for forward and low-pitched for back. This beep enables children to count the number of steps as the turtle moves, i.e. *x* beeps for *FORWARD x*. A file is loaded called *TUNES*, in which there are musical procedures called 'forward', 'back', 'left' and 'right' (in lower case). The screen can be left on with *FD 4* appearing as forward 4 for the children to check and delete if required. The new musical overlay files have been greatly enjoyed by the children. The directional movements of the turtle have been put in stronger focus. The beep following each step makes each distance travelled much more real as its length can be counted, beep by beep.

I have attempted to devise a scheme of overlays that will take young children from the elementary stages of floor turtling with the concept keyboard, right through to the use of the screen turtle from the computer keyboard. To facilitate this process I have produced three more overlays for driving the screen turtle in Logotron Logo. These overlays plus files follow a program similar to those designed for the floor turtle. These drives can be used either on their own for free drawing on the screen or else they can be used in conjunction with pictures that I have made. One picture consists of flowers in a supposed garden, and the turtle is a bee flying either around the flowers, or from flower to flower. There are three pictures of planets arranged on the screen in different ways. Each galaxy is progressively more difficult for the turtle space rocket to travel in. The journeys can be made from one planet to another, or the turtle can travel between the planets to a chosen destination.

It would be possible to link these pictures with topics and follow on with *PenDown* overlays. A delightful space overlay could be made to follow after the galaxy pictures, resulting in some very creative and imaginative stories. Links with science and art are easily foreseeable. Surely it is far more exciting for the children and teacher to see Logo as a part of a topic rather than in isolation?

A selection of screens for the turtle to explore

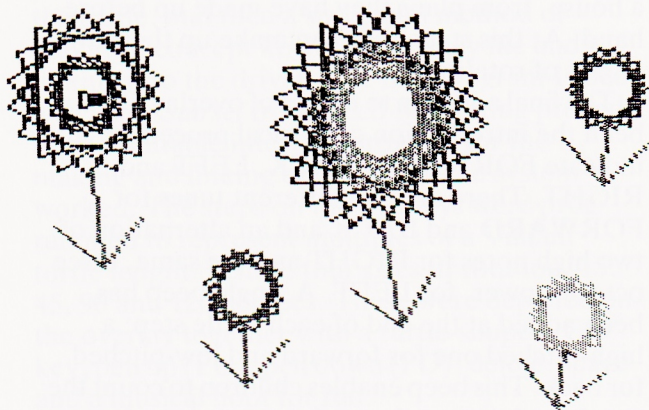


Fig. 2 The bee (turtle) waits to go on his journey from flower to flower.

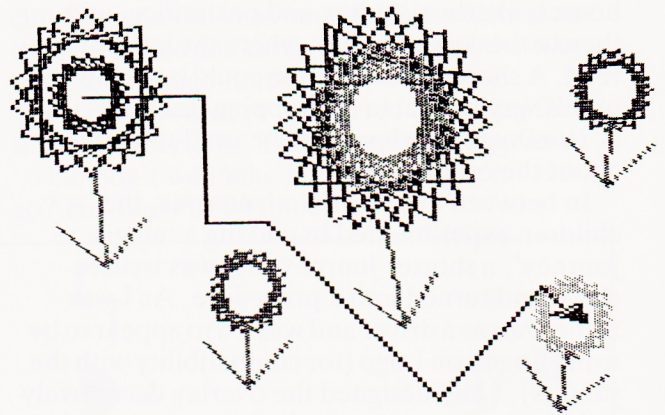


Fig. 3 The bee (turtle) makes one journey to another flower. This was made by a group of four children.

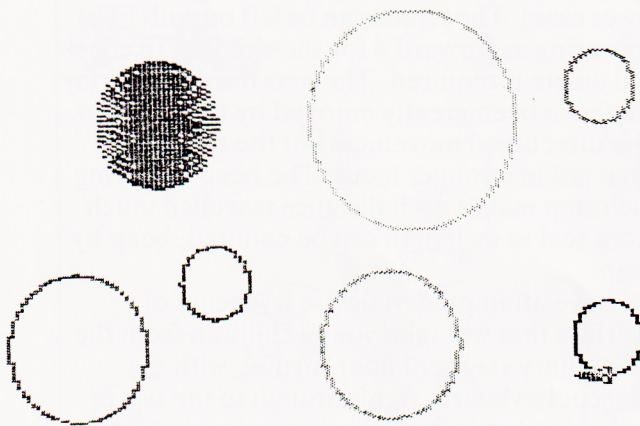


Fig. 4 A simple galaxy of planets. The rocket (turtle) waits to take off into space.

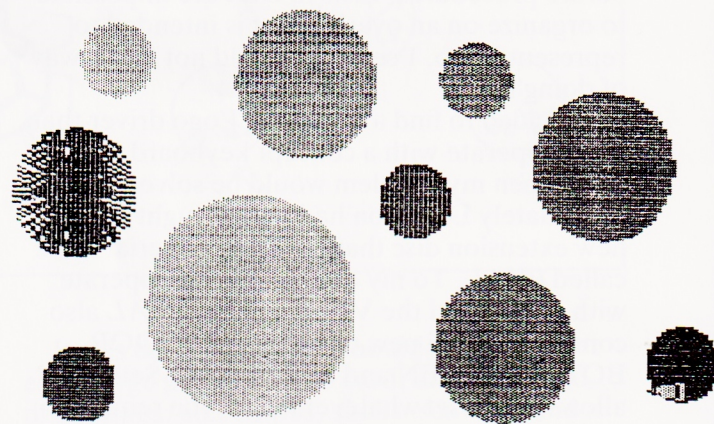


Fig. 5 A more developed galaxy. More skill will be demanded to take the rocket around the planets.

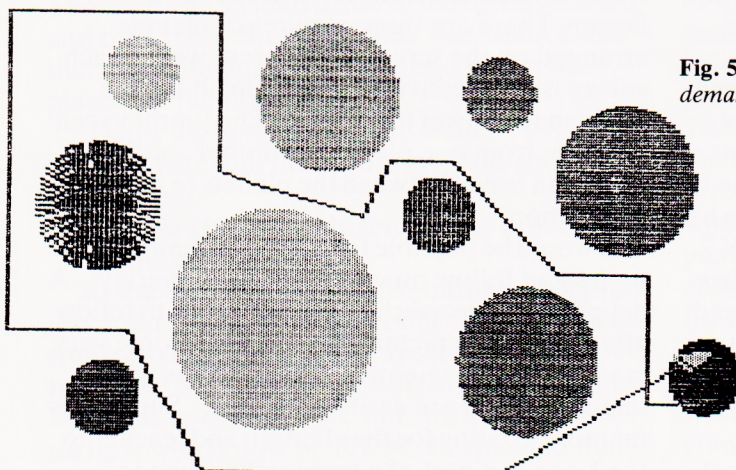


Fig. 6 A rocket journey made by a group of four children.

A Term of Owls

Reg Eyre and Sheila Duffill
Swindon Village Primary School

Having been asked to test-fly the proposed new software for MAPE Tape 5, I asked Sheila if we could take on a topic about birds, leading to the development of an Owl Resource Pack. It was also my intention to use as much freely available software as possible to develop the children's language skills. I recognised that this might mean that we would not always follow up opportunities for other work, such as mathematics.

We started by considering problems of flight. We gave the children a sheet of A4 paper and asked them to make paper aeroplanes. We did not realise that this activity had to be taught! The children were asked to experiment with the sheets of paper and try to design a plane that would fly as far as possible, or as fast as possible, or as slowly as possible. All the children seemed to have discussed the problems with their parents and hence we had a range of aeroplanes to compare the shapes and areas of the wings and the balance position of the aeroplanes. This was an opportunity to use a database program to record results and find out which shapes satisfied certain design criteria, (which we did not do!).

Having started with aspects of flight, we pursued the language used to describe different types of flying. The experiments were extended by adding ailerons to enable the aeroplanes to turn right or left or pitch up or down.

We also experimented with the design of parachutes. We took a circle of paper and made one cut from the circumference to the centre and formed an overlap, which when secured with a paperclip, forms the paper into a cone. No matter how this cone is released from a height, it will always fall gently with its point down. Experiments were then conducted to try and find a relationship between the shape of the cone and the time taken to reach the floor from a known height.

From these experiments, we moved on to consider the problems of bird flight. How do they manage to fly with flexible wings? Why hasn't a human managed to fly in a similar fashion? We were fortunate to have a side of the classroom looking out on a field which enabled us to observe several bird species and the different patterns of flight used by each.

At this point we asked the children to describe various birds from observation. These descrip-

tions were always factual and the children resisted any attempt on our behalf to get them to try to talk about the character of each of the birds. We asked the children to read and observe more than just the physical characteristics of birds and to study one bird each from a vast collection of bird books and posters.

After a short while, we suggested that the class might like to summarise their researches under some common headings. These headings were agreed and we produced the following typical sheet.

Birds File

Size. 34 cm

Wingspan

Eggs. Seven. to four.

Nest. in an old building

Beak. curved

Main Colour. brown.

Other Colour. black

Food. Rats. mice

Habitat. country

Fig. 1 Birds file, Mary Hughes.

This sheet was produced using *Concept Writer* with its various printer font sizes. Note also that we forgot to put in a heading for the name of the bird!!

We were aiming to use *Ourfacts* to store our data about birds so that we could analyse it later. However, the children found great difficulty in finding all the information for each bird. For example, even on the sheet shown, you will notice that the entry for wingspan is missing. Collecting data on birds is difficult because the majority of books, even reference books, do not list all the information you require, or have it in the form you need.

After collecting in the sheets from the children, we attempted to fill in some of the

missing data. Occasionally some imagination was called for! The data was entered into *Ourfacts* and the children interrogated the database by formulating their own questions and printing out the appropriate graphs. This latter feature is an absolute Godsend for enabling children to produce accurate representations of their discoveries.

We were encouraging the children to write about the character of each bird by word processing their writing, poetry or prose, via *Concept Writer*. They appeared motivated to do this because of the ease of use, the choice of print size and the novelty of hearing the computer reading their work back to them.

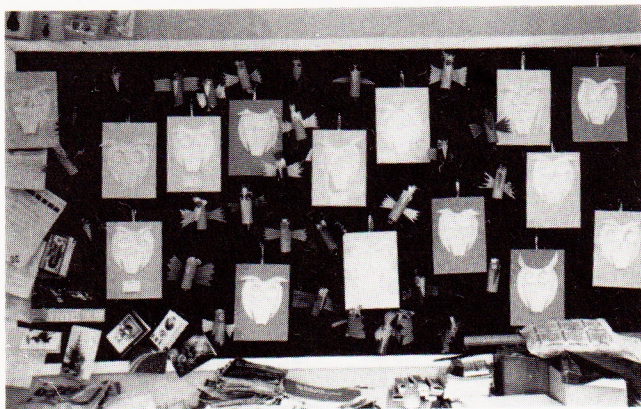
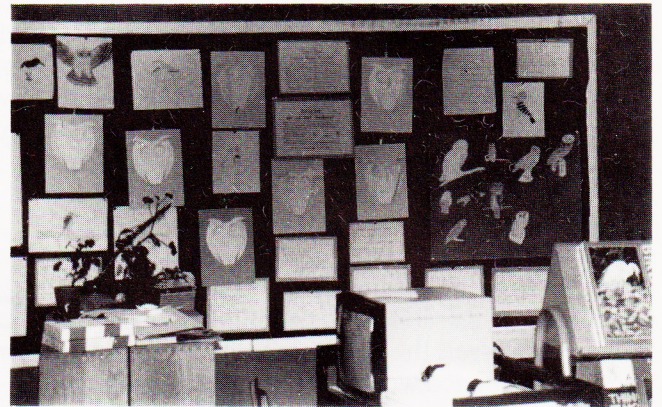


Fig. 2 Illustrations from the classroom.

Some of the children chose to present their work in a stylised way and that the vocabulary that we wished to encourage was coming through. For example, words like swoop, hover and soar appeared as well as the use of alliteration.

About this time we began to use *Infant Tray/Create* to introduce the ideas of more formal layouts of poetry. This led on to some of the children writing their work in *Create* for the rest of the class to reveal via *Infant Tray*. The following example was written by Emma:—

Rusty Robin who lived in a kettle,
Had a home which was more rust than metal.
To show that he was out,
He would turn the spout,
And his red breast he would flout.

We often took text that the children had written in *Concept Writer*, and was already mounted on the walls, to create texts for *Infant Tray*. On these occasions, the original author operated the keyboard for the rest of the class to reveal the hidden text.

Blue tits are the funniest things
Doing acrobatics, performing swings,
Balanced on twigs and branch ends,
To show us how their bodies bend.
Quite small, and very friendly,
Nesting close and neighbourly.

Magpies steal.
Steal from other birds' nests.
Steal shiny things,
Nothing but the best.
But steal is what they do,
Steal from me and you.

Sometimes a well-known text was slightly modified.

A wise old owl sat up in a tree,
This wise old owl looked down on me,
She said 'toowoo, toowit, toowee,
You are not as clever as me!'

A maniac owl, who once owned a bike,
Went round a corner and mangled his trike.
He said 'If I'd learned how to hoot,
I wouldn't have ruined this wonderful suit!'

Or even rewritten!

The Owl and the Pussy Cat,
Sailed away in a boat.
With plenty of money
To keep them afloat.
The Owl sang a song,
But to his great surprise,

You have noticed that this is left unfinished! The children were invited to finish it and do better than our version which was,

The Pussy Cat snored
As she closed her eyes.
'Oh wonderful Pussy
Oh Pussy my love,
Why could not you have been
A White Turtle Dove?'

We found that, after lunch, sitting the class around the computer to work as a group at revealing a piece of text was quite a good way of settling them before starting the afternoon's work.

Alongside the computer work there was a lot of art and craft work. Silhouettes of birds were cut out and mounted on a painted sky background. Colourful cylinder birds were made from toilet roll tubes and gummed paper. All of this work began to cover the walls.

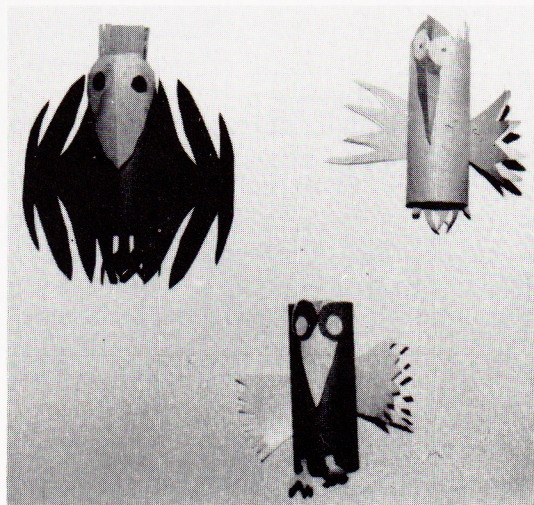
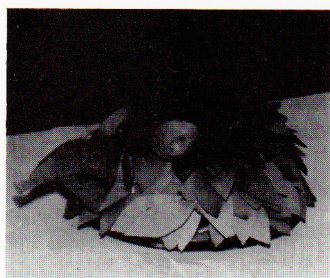
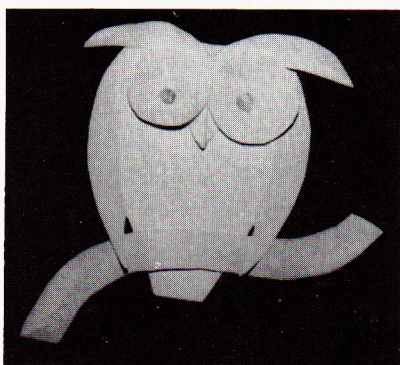


Fig. 3 Photos of turtle owl and owl sculptures.

We had all been collecting feathers and were often able to identify not only which bird the feathers came from, but also which part of the bird's body the feather came from, and its function, e.g. warmth, wing or flight. When we acquired a large number of pheasant feathers, a mock bird body was built using some plasticine, and the feathers stuck in, after having first identified them as left or right wing or tail. This 'object' was then launched and managed to glide successfully!

The class had already been told that the topic we really wanted to do was Owls and hence they became impatient to move on. We read them the story of *The Owl who was Afraid of the Dark* by Jill Tomlinson, which led on to a gymnastic session on landing and falling like Plop! We made pottery owls and paper sculptures of owls and listened to owl calls from a record. We were very lucky to obtain some owl pellets which were dissected as suggested in the RSPB sheets on owls. This proved to be an astonishing experience for the children because the bones seemed so tiny and yet could be identified, and

the owl's most recent meal could thus be determined.

Another database for *Ourfacts* was prepared on owls from some research done by John Harpum at the College of St Paul and St Mary. This appears in the Owl Pack Special and was the result of quite an effort to collate such data. The children used this to look for similar relationships to those sought on birds generally.

At about the same time we introduced the idea of a story about animals living in the woodlands. This concerned a mouse called Rodney who appeared to be missing after a truce had been negotiated between the rodents and the owls. The children were divided into small reporting teams, each representing some population of woodland animals, such as voles, owls, mice or kestrels. Each team then wrote a newspaper using *Front Page Extra* to explain the disappearance of Rodney. This was done in great secrecy so that each reporting team knew nothing of the other teams' work until all had finished and the work was mounted and displayed on the wall.

Daily Kestrel 25p
2nd November 1987

Killer Kim Kills Again

One night Kim the Kestrel saw a fat juicy vole. When GRUNCH! the vole was eaten in her big beak. She then flew back to her landing patch and finished off eating the vole. The next night another fat juicy vole was going out to play when ZAP! Down came Kim. Another vole hit the dust! Kim went back to her nest where she overheard the voles making a plan. They were planning to go to the ammunition shop to buy a catapult and a kestrel trap and some darts. The plan was to lure Kim into a trap, in which it appeared that a kestrel was in trouble. Once Kim was in the trap, the door would shut, darts would be fired at Kim, and Kim would be dead. Because Kim did not believe them, she fell into the voles' trap, and was killed.

Please read

Daily Mouse 20p
Monday 9th November

Where is Rodney?

To find out how Rodney has disappeared, we shall spy on the voles. All the voles will be recruited to spy on the owls. The voles will not be expecting this because they don't know that the voles are involved.

We will know who has captured Rodney
We will be spying from a little hole to see who the culprit is.

Our plan for a trap

Picture of the trap

Already dead?

Mouse News 20p
19th October 1987

Rodney Mouse Missing!

Is this the end of the truce?
What is happening?
Yesterday evening, as all the small woodland animals were getting together, Mrs Dinney, Rodney's mother, asked everyone to look for her son, who she had not seen all day. It appears that Rodney was going out to a different part of the woods to look for some new type of berries. He had been warned that young mice who went in that area had not returned, but he seems to have gone anyway.

Will he return?
Only Billbow, the oldest and wisest mouse, had ever been in this part of the wood and returned. He said to our reporter that it was most unlikely that Rodney would ever be seen again, because the woods were inhabited by all sorts of hunters who were much fiercer than the owls. Rodney's mother is now in hospital suffering from severe shock and doctors say she could be in hospital for a long time, or until Rodney is returned. Anyone who has any information should phone headoffice immediately.

Rodents November

Rodney Kidnapped!!

Who did it?
The vicious owls kidnapped poor old Rodney. Poor old Rodney in those vicious claws. Because the owls had made a trap, they were treating him badly. And you know how small a mouse is! So it must be terrifying for him.

Poor old Rodney, squealing and bawling his head off. The rest of the animals were very sad and decided to make a plan to rescue him. One of the animals said "Because it has been snowing, we have found blood on the ground, probably Rodney's. Maybe the kestrels have killed him, or maybe the owls." If poor old Rodney is dead then we will have to prepare his grave. A small stone with his name on so that we will remember him for ever.

Mouse Berries are Smashing for You!

y Owl 1987

We've Got Rodney!

Rodney is trapped in the Owl's cellar. "We are fed up with eating berries and nuts" said Mrs Barn Owl. "He is going to catch some more mice so we can eat Rodney" said Mr Barn Owl. "We can gather all the Barn Owls, and get more mice" said Plop. So this is what we are going to do. Then we will go down to our trap, and see if we have caught a mouse. The mice have said that this is just not on! In talks between the mice and the Owls, the mice have suggested that we ought to be eating berries and nuts. A spokesperson for the owls has said that this is not a good idea because owls cannot open the nuts. One of the mice replied that they would open the nuts for us. This seems to be a good agreement.

Plop catches Rodney

Be careful when going out at night.

Practice Landings Every Day!

Fig. 5 Composite of Front Page Extras.

Continuing the media theme, we discussed the setting up of teletext-style pages for use with *Newsbulletin*. The index page was created from the ideas the children suggested they wanted to pursue, and with a view to their being able to see what facilities were available to them when using the program. Working groups then began to create pages on fashion, sport, weather, jokes, holidays, food, top ten records, books, TV programmes, adverts and traffic warnings. All the pages were concerned with owls and some were quite funny.



Fig. 6 James' drawing.

Back ground Blue
Title: purple
words yellow

Elizabeth and Samantha and Michelle

What is the difference between owl and a flea?

An owl can't have fleas a flea can't have owls.

Where do owls live?

Owl Avenue

How far can an owl go?

15 miles to the Gallen.

Fig. 5 Planning sheet for Newsbulletin.

The finished product was available for a parents' evening, although not many knew what to make of some of the jokes or 'Plop's Page'.

The adventure game *The Lost Owl*, which is in the Owl Pack, was easily solved by these eight-year-old children and the manipulation of scenes option was used as a stimulus for imaginative stories and poems.

In addition to all these activities, we borrowed a Jessop floor turtle which the children turned into an owl by covering it with paper feathers and giving it a beak and eyes. This was then used

to get the children to feed 'owlets', toilet rolls with 'V'-shaped cut-outs, by giving the computer instructions to move the 'owl' from any position to the 'owlets'.

The turtle work brought out all the usual discussions about angle and length estimations as well as emphasising the 180 degree turn that an owl can make with its head.

To experience the drawing aspects of Logo, we got the children to draw owls by using only rectangles, or triangles, or curves.

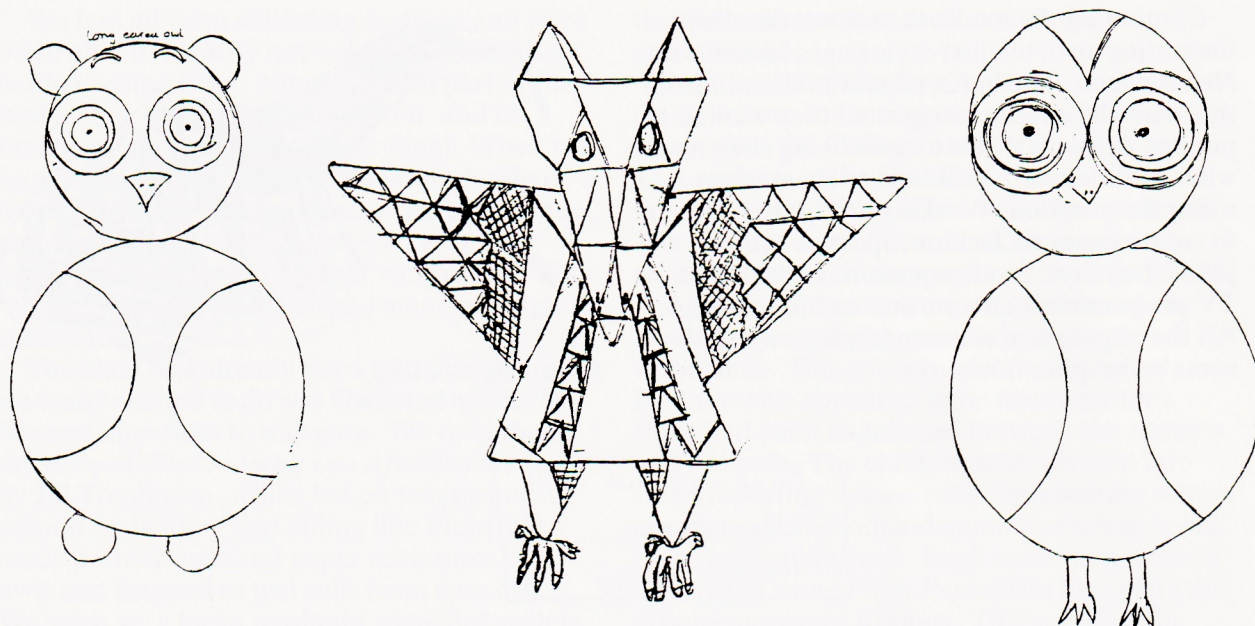


Fig. 7 Examples of children's work.

Some of the children, working in groups at the computer, were able to produce a passable version of an owl.

Their attempts at drawing owls using this turned out somewhat different!

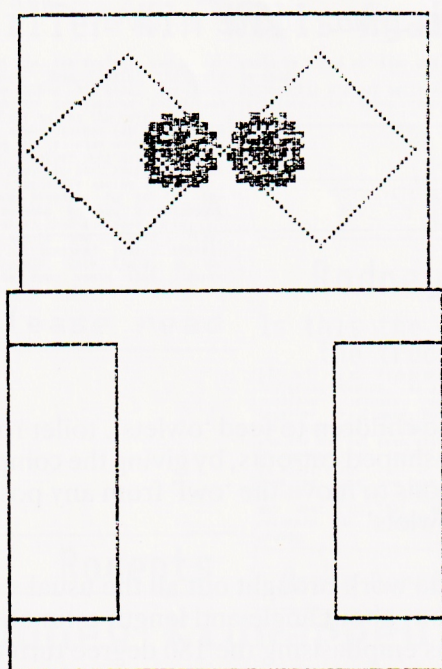


Fig. 8 Rectangular owl.

The children were shown how to draw curves in Logo using the following procedure:-

```
TO CURVE :NUMBER :LENGTH :ANGLE
REPEAT :NUMBER [FD :LENGTH RT :ANGLE]
END
```



Fig. 9 A bear owl!!

To summarise, the children spent most of one term learning about birds, in particular about owls. We had found many poems about owls, all sorts of geographical and physical data about owls, historical facts, superstitions and beliefs. We used the computer to develop and enhance the topic with six different discs of software, five of which were actually free! The sixth, *The Lost Owl*, is only free to MAPE members who have also received the collated resource pack. Who needs to buy expensive software when so much can be done with freely available software?

Software used

Infant Tray/Create, MEP
Ourfacts, MEP
Concept Writer with Speech, local MAPE rep
Front Page Extra, MAPE Tape 3
Newsbulletin, MAPE Tape 4
The Lost Owl, MAPE Owl Pack

MAPE Tape 5 – The Lost Owls Pack

This has been distributed free to all paid-up members of MAPE as of 31 March, 1988. There are only 1500 spare copies to be sold on a 'first come, first serve' basis. Costs are shown below:—

- | | |
|--|--------|
| a) Individual copies | £12.50 |
| b) Additional copies to MAPE members (you must provide your membership number) | £7.50 |
| c) Bulk orders (over 20 and less than 50) | £9.50 |
| d) Bulk orders (50 and over) | £8.50 |

In the case of c) and d) there is a reduction of £1 per pack for 480Z authorities who agree to duplicate the software themselves from a master disc provided. In the case of bulk orders, postage and packaging will be added.

Orders should be sent to MAPE Information Officer, Newman College, Bartley Green, Birmingham B32 3NT. Cheques accompanying orders should be made payable to MAPE.

Copying the MAPE Lost Owls Disc

This software is protected by copyright. It is only permissible to make one copy for backup purposes.

Before beginning to copy, put write protect tabs on *both* of the notches on the *Lost Owls* Disc.

The *Lost Owls* software is supplied on a 'flippy disc'; this means that there is information on both sides of the disc with that on the second side being accessed by physically turning the disc over. It is not possible to access the second side of the disc as drive 2 on a double sided drive.

Single drives

You will need to copy the master disc to two separate discs.

To copy the front side, type

```
*ENABLE<RETURN>
*BACKUP 0 0<RETURN>
```

Follow the disc change prompts, using the titled side of the *Lost Owls* disc as the source and the first of your new formatted discs as the destination.

To copy the reverse side, type

```
*ENABLE<RETURN>
*BACKUP 0 0<RETURN>
```

Follow the disc change prompts, using the untitled side of the *Owls* disc as the source and your new formatted disc as the destination.

Single sided, double drives

You will again need to copy the one disc to two separate discs.

Insert the *Lost Owls* disc with the titled side in drive 0 and the first of your new discs in drive 1.

Type

```
*ENABLE<RETURN>
*BACKUP 0 1<RETURN>
```

When complete you now have to copy the reverse side. Turn the *Owls* disc over in drive 0. Insert the second of your new discs in drive 1.

Type

```
*ENABLE<RETURN>
*BACKUP 0 1<RETURN>
```

MAPE Stop Press

MAPE Course/Conference 1989

This will be held at the Caerleon site of Gwent College of Higher Education. The college is near Newport in Wales and is very convenient for motorway and rail links. The Course/Conference will be from Wednesday 29 March to Friday 31 March. Although the cost has not been finally fixed, it will probably be a maximum

of £70 (resident, MAPE members). It is necessary to act now if you want to reclaim this cost from your GRIST allocation.

As this event is after the Easter weekend, we are hoping to offer a programme of social events for delegates who wish to bring along other members of their families. Further details will be distributed in September in the 'Writing Special'.

Owl Pack – Nimbus

The *Lost Owl* software has now been versioned to run on the Nimbus. Any MAPE members who would like a copy must send a formatted 3.5" disc to The MAPE Information Officer, Newman College, Bartley Green, Birmingham B32 3NT, together with a self-addressed sticky label with stamps to the value of 30p. Please note that the program is copyright and is only available to members who received an 'Owl Pack' before the end of March or who have since purchased a copy.

MAPE Tape Compendium

We still get a number of requests for back copies of MAPE software. The best of MAPE Tapes 1, 2 and 3 have now been put together in the form of a compendium. These are available at a cost of £8 from the above address. Back copies of MAPE Tape 4 are also available at a cost of £6. Please remember that if you have solved *Magic Telephone* part 1, then an alternative to part 2 (called part 1b) is also available from the MAPE Information Officer.

Towards more effective inservice

Stan Norman

Nottingham Education Support Service

'Teaching is a profession and teachers should be treated like professionals.'

You might have to go a long way to find a teacher who would disagree with that statement and yet when it comes to inservice training we are prepared to accept second rate standards and for as long as we accept that situation it will continue. The responsibility for improving the professionalism of INSET lies not only with the providers but also with participants.

Traditionally inservice training has been offered on an ad-hoc cafeteria style menu basis with teachers opting for courses that 'look interesting' or sound topical. The decision to mount a course is often taken by ex-teachers who feel that they know best what class teachers need. The decision to attend the course is then based on little more than the title or the name of the provider and participants are not surprised when, at the end of a hard day, they are invited to take a cup of tea and a biscuit and sit back whilst the expert delivers pearls of wisdom. Often they may go away feeling that the event was both enjoyable and interesting, but They return to their classrooms and carry on as they were doing previously. The net result of that is a large body of teachers who feel that INSET is a waste of time.

So how do we make inservice more effective and more professional?

An in-service course should be designed to meet the needs of the participants; easy to say but difficult to achieve. Ideally the participants should be involved in the design of the event.

This is possible where the INSET is school based and school focussed. This can arise where the staff of a school identify a need and discuss and contract a program to meet that need, which may or may not involve external support. What is important is that participants feel ownership of the course and see any external support as facilitating. Where this is not possible then it becomes imperative that course providers take positive steps to ensure that they are mounting courses which are in response to needs which teachers and schools have identified and which meet their development priorities. They should then give teachers as much information as possible about the nature of the event so that they in turn may take an informed professional decision about attending. As a minimum I would suggest that a course advert should include the aims, the expected outcomes, the teaching styles to be used, the role of the presenter, the role of the participants and the form of evaluation to be used. The first part of the course should then be used to clarify these points and to establish a contract between presenter and participants.

The course provider then has a responsibility to ensure that the course is well planned, well prepared, well managed, well presented, and effectively evaluated. Good planning takes time and involves having a clarity about the aims, the expected outcomes, and the processes. Good preparation means having any materials to support the course ready and of the highest standard. Tatty dog-eared handouts and scribbled transparencies are totally unacceptable. The environment should be under control – chairs arranged as *you* want them to

suit the process. You should work to create a learning environment; remember that a room full of computers can look very threatening. Managing a course means ensuring that it starts on time, proceeds through the programme as published and that it finishes on time. It may be that at various times during a course a provider will devolve management of the time to the participants, but where this does happen it is essential that they are aware of the change in ownership. It may also be that the content of the course changes as a result of feedback from the participants; where this occurs it is the responsibility of the provider to manage any changes that become necessary.

Presentations should be slick and succinct. If you can't say what you have to say within ten minutes you are going to lose your audience anyway. It has long been recognised that the practice of children sitting in rows and being lectured by teachers does not result in effective learning. Children learn by doing, and the role of the teacher is changing to become one of facilitator. Odd that so many INSET providers have not realised that teachers learn in exactly the same way and that their role needs to change accordingly.

Finally the question of evaluation which raises so many hackles and which is seen as threatening by so many. We improve our practice through a process of structured review which leads to planning and then doing and then reviewing. Too often course providers duck the question of evaluation (structured review) either by skipping it altogether on the grounds that 'it's late and there isn't time' or by closing down the

responses. 'Did you enjoy the course?' does nothing to inform future practice. To be effective a course has to change or develop the classroom practice of the participants and the evaluation should change or develop the practice of the provider.

Related to course provision is the question of who carries responsibility for the professional development of a teacher. Too often course providers assume that during the course at least it becomes theirs. Teachers need to recognise that the responsibility for their own professional development lies in their own hands and that to abdicate or surrender that responsibility can only lead to frustration and disillusionment.

So the next time you attend a course look at it critically and ask yourself, 'Am I wasting my professional time?' (which is after all very precious). If the answer is 'Yes', then you need to address the question of why. Is the course what it said it would be? Is it achieving or working towards its stated aims? Do not be afraid of standing up to be counted if it is wandering or floundering. You have a responsibility to ensure that the course meets your needs. Ensure that you are allowed to contribute to an evaluation and be honest and constructive. Remember that evaluation should serve to improve the practice of the provider.

To course providers I would say, do not be afraid to devolve responsibility for the content and direction of a course to the participants; it is after all their needs you are trying to meet, not your own. Above all do not be afraid of evaluation; use it to strengthen your practice.

Software Reviews

Title: **Cateby Manor**

Publisher: RESOURCE, Exeter Road,
Off Coventry Grove, Doncaster DN2 4PU
Machine: Acorn BBC B, B+ and Master
Price: £24.95

Cateby Manor is a suite of three programs, maps and worksheets, from the Resource co-operative.

It has been designed to support the existing curriculum and as such it is an ideal introduction to computers across the curriculum for any teacher who has not yet grasped the nettle.

The package takes a manor in 1086 and gives us a map of the village and a datafile on each of the 143 inhabitants. The third disc is a simple text development program which builds the vocabulary and tests the children's understanding of the period.

A story called 'Escape' is supplied with the package and this is used to launch the topic. The class listens to the story of a man who wishes to flee the manor and become a free man. We follow him on his first day of freedom as he walks around Cateby. All the places visited can later be found on the map; all the people encountered can be searched for on the database.

Once the children have an understanding of life in a manor in 1086 then we can begin to use the programs. Notice that I say when the children understand manor life because the programs do not attempt to teach anything. They allow children to wander around the manor, almost as if it were a living museum. With the map we can look at any area in detail and the data held within the disc will be revealed. Usually it is simply a sentence or two about what can be seen by someone looking over that particular ditch on that Spring day in 1086; alternatively the map may give us a picture of the scene drawn in typical mediaeval style. After

wandering round for a while the children soon begin to ask specific questions. 'Is there a school?', 'Where is the church?'. Now we can search the map to ask for a particular word. A search for school will give no response but the word 'church' can be found in many squares on the map.

Now the program comes into its own as the children begin to ask questions both of the map and then from books as they realise that the program holds more questions than answers.

The datafile holds every person in the manor and gives us information on each one. This datafile is based on *D.I.Y. Data* from Resource and is really easy to use. 'How many people own land? Who owns the most? Did women own anything? Why not?'

The worksheets send children off to find out who is working in Oak Wood and what they are doing. It is then up to the teacher to provide information on coppicing, pollarding etc.

Our classroom is now full of scale models of 'Cateby'. We have drawn a map on the wall and placed each family correctly. We are starting to write creatively about some of the people in the manor who are beginning to come to life in a far more exciting way than they do from pictures in history books. And yet we have been using the package for only a few weeks. We are still scratching the surface of what can be done.

Teachers who feel unsure of programs or packages which venture into unknown territory should give *Cateby Manor* a try. It will repay every effort made to come to terms with such a full package of stimuli and information.

G.P. Keeling

Long Sutton CP School, Lincolnshire LEA

Title: Sounds Useful

Publisher: MEDUSA, Bishop Grosseteste

College, Newport, Lincoln LN1 3DU

Machine: Acorn BBC B, B+ and Master

Price: £20

Kevin Hamel and Mike Miller state in their introduction to *Sounds Useful* that it is 'intended to promote musical thought, exploration and activities.' They have produced a complex package to achieve these aims and it needs a musically aware person to exploit them to the full. It can be quite daunting to be presented with documentation that talks about sound envelopes, gradient, pitch, amplitude, phrases, polyphony, slide, channel changing, transposing, digital sound sampling and other such technical terms!

However, the program arrives with a pre-recorded cassette which contains examples of different styles of music that have been created by junior-age school children, and this may well encourage the non-musical to persevere with the

notes. There are also examples of work produced by teachers attending a two-day course.

There are three programs in the suite – *Synthesiser*, *Ostinato*, *Sequencer*.

Synthesiser allows the children to use the keyboard as a musical instrument and experiment with tuning, octaves, sound envelopes, and a series of special effects such as blending the pitch of notes, sustaining their length, sliding along them, adding an echo, and mixing different types of sounds. The sounds are represented in simplified 3-D forms that the authors liken to a strip of folded paper and a rubber band on a geostrip. It is therefore quite easy for the children to see the differences between sounds and even 'draw' sounds themselves. The keyboard can even be 'split' into two and both sections set to play in different octaves. Each key can also be programmed separately. Sound envelopes can also be created and saved on a separate disc. These sounds can even be transferred to the *Ostinato* part of the program.

An *ostinato* is a musical phrase that is repeated again and again. This part of the program allows the children to create musical phrases that can be repeated and manipulated indefinitely. The notes are displayed on the screen. The rhythm can be changed at will by pressing the space bar and it is also easy to change the tuning and speed with the cursor keys. Phrases can be transposed by using the number keys. The *ostinatos* can be saved under file names to be used with the *Sequencer* part of the suite of programs.

Sequencer is by far the most complicated of the programs, although the authors suggest that upper juniors could create sequences for themselves. They describe it as a 'Logo-style' method of working because a simple program is written to tell the computer what changes are to be made to the musical phrases and when to make them. There is a choice of twenty-six commands and the list of instructions can be saved when work is finished. They can then be edited at a later date.

The worksheets provide some very interesting sample ideas for using the program. The documentation also includes reports on children's work. Drama and dance activities are obvious possibilities, as well as ensemble work, although the authors do suggest fitting an extra socket to the back of the computer so that the keyboard can be linked to an amplifier for better sound quality.

This program is suitable for musically minded people; particularly if they have had some experience with synthesisers, but the non-musical would have to invest a lot of time in the program and may feel happier with a program such as *Compose* by Andy Pierson (published by the Shell Centre).

Diana W. McCann

Menu Making

Simon Harris
Newman College

When a disc contains more than one program, it is easier to use if it contains a menu program. On starting up the disc, a list of programs available is presented on the screen and the user then selects the one required.

A vast number of menu programs exist. However, two problems present themselves if you want to use them for your own programs. Firstly, you may be stealing someone else's software if it is not public domain. Secondly, the menu may be tailored to the programs on that particular disc, and a certain amount of programming expertise will be needed to alter it to suit your own.

Some menu programs on the BBC are 'intelligent' and look to see what is on the disc. Unfortunately, this can cause further problems. Earlier programs of this type read the disc catalogue by a method that does not work on the BBC Master and the result is a menu full of garbage. Also, this type of menu may present a list of every single file it finds on the disc, including sub-programs, data files, machine code programs, etc, and, even if it doesn't, you will probably get a list of rather abrupt seven-letter filenames instead of a list of program titles.

What is needed is a simple menu program, free from copyright, which can easily be altered to accommodate any disc and such a program is presented here, both for the BBC and for the 480Z. Note that the menu will only run BASIC programs.

If you would rather not type the program in yourself, please send a blank disc marked 'BBC' or '480Z', a self-addressed sticky label and 30p in stamps to: Simon Harris, Computer Centre, Newman College, Genners Lane, Bartley Green, Birmingham B32 3NT.

Typing in the program

1. Make sure you are in BASIC. On the BBC, the '>' prompt will be showing. On the 480Z, BASIC has to be loaded from disc, usually by typing BASICS2 at the 'A>' prompt. The 'Ready:' prompt will then appear.
2. Carefully type in the appropriate version of program.
3. Save the program onto a disc by typing SAVE"MENU". It does not have to be called MENU but that is the most appropriate. Keep this as the master copy of the program.

Using the program on a disc

Use the following procedure whenever you need to put a menu onto a disc:

1. Make sure you are in BASIC (see above).
2. Load the menu program from your master disc by typing LOAD"MENU" (or whatever you called it).
3. At the bottom of the program, there are some lines which begin with the word 'DATA'. These must now be altered to suit the programs that are on the disc that is to contain the menu. To enter a line, type its line number at the '>' or 'Ready:' prompt, followed by the word DATA and then type the rest of the line, then press RETURN.

Line 8000 should be altered to contain an appropriate disc title between the quotation marks. This can be up to 33 characters long and will appear at the top of the screen when the menu is displayed. For example:

```
8000 DATA "Maths programs"
```

Lines 9000 onwards should contain details of the contents of the disc as follows. There should be a line for each program on the disc and it should take the form of the one shown in the program listing, i.e. the first set of quotes contains the program title (up to 16 characters), to be displayed on the menu screen, and the second contains the actual filename that runs that program. For example:

```
9000 DATA "Front Page Extra", "FPAGEX"
9010 DATA "News Bulletin", "NBSTART"
```

and so on.

All of these lines must have line numbers between 9000 and 9998. The program can cope with up to 256 of them, although you are very unlikely to have that many.

Line 9999 MUST be left as it stands, i.e.
9999 DATA " ", " "

4. Remove the master disc and insert the disc which needs the menu. On the 480Z you *must* then type RESET before the menu can be saved.
5. Save the program onto the new disc by typing SAVE"MENU".

Running the menu program

The menu can be run by typing CHAIN"MENU" on the BBC or LOADGO"MENU" on the 480Z. However it is often desirable to simplify the loading process further by making the disc 'autoboot', which means that the disc can be started up by pressing one key. This is achieved as follows:


```

10 REM General purpose menu program
20 REM RM 480Z version
30 REM Author: Simon Harris, M.A.P.E.
40 ON BREAK GOTO 900
50 ON ERROR GOTO 900
60 TEXT:PUT 21,12,27,"=0J"
70 CALL"RESOLUTION",0,2:CALL"COLOUR",1,0,0,3:CALL"COLOUR",2,0,7,3:CALL"COLOUR",3
,7,7,0
80 DIM NAME$(255),FILE$(255)
90 READ TITLE$
100 I=-1
110 I=I+1
120 READ NAME$(I),FILE$(I)
130 IF NAME$(I)<>" " AND I<>255 THEN GOTO 110
140 N=I-1-(I=255 AND NAME$(I)<>" ")
150 CALL"FILL",8,170,318,189,1
160 T$=LEFT$(TITLE$,33):X=4+(33-LEN(T$))/2:Y=1:XM=1:YM=2:COL=3:GOSUB 1000
170 CALL"FILL",8,165,318,166,1
180 CALL"FILL",8,5,318,6,1
190 I=-1
200 CALL"FILL",8,11,318,150,0
210 C=-1
220 C=C+1
230 I=I+1
240 I$=LEFT$(NAME$(I),16):GOSUB 2000
250 IF C<>10-(N<12) AND I<>N THEN GOTO 220
260 M=0
270 IF N>11 THEN C=C+1:I$="More programs...":M=-1:GOSUB 2000
280 T$=" To see a program press a letter A-"+CHR$(65+C):X=1:Y=4:XM=1:YM=1:COL=2
:GOSUB 1000
290 G=GET(0):IF G<>0 THEN GOTO 290
300 G=GET(1):IF G=0 THEN GOTO 300
310 IF G=ASC("a") AND G<=ASC("z") THEN G=G-32
320 IF (G<ASC("A") OR G>65+C) AND G<>26 AND G<>27 THEN GOTO 290
330 IF G>27 THEN G=G-65
340 IF M=-1 AND G>=C AND I<>N AND G<>27 AND G<>26 THEN GOTO 200
350 IF M=-1 AND G>=C AND G<>27 AND G<>26 THEN GOTO 190
360 CALL"RESOLUTION",0,2:PUT 23
370 IF G=27 OR G=26 THEN END
380 LOADGO(FILE$(G+I-C-M))
900 CALL"RESOLUTION",0,2:PUT 23
910 END
1000 CALL"CHARSIZE",XM,YM
1010 CALL"STPLOT",8*X,181-10*Y,VARADR(T$),COL,0
1020 RETURN
2000 T$=CHR$(65+C):X=1+20*(C-2*INT(C/2)):Y=7+2*(INT(C/2)):XM=1:YM=2:COL=2:GOSUB
1000
2010 T$=I$:X=X+2:XM=1:YM=2:COL=3:GOSUB 1000
2020 RETURN
8000 DATA "Disc title"
9000 DATA "Program name","FILENAME"
9999 DATA "",""

```

MAPE News

Southern

The Southern Region continues to be as active as possible with various hard-working groups trying to support the membership.

The Solent Group met in Chichester (one-room) Teachers' Centre in early January when Peter Aitchison and Newton Coen described various ways of using the word processor in the Infant/Junior classroom, to a small but interested group. Peter's enthusiasm for the computer is almost overwhelming; he has computerised his house, his school secretary, every class in his school and a large number of the parents. He has had some real success with the computer and he has some interesting (and some novel) ways of making the most of the computer time in his classrooms.

A future meeting is being planned at Havant in the summer term.

The Berkshire MAPE group continues to thrive under the guidance of Chris Robson.

In Dorset, MAPE activities seem very well organised with termly meetings at various venues. In October Bob Hart took 35 people on

a day of 'adventures'; on March 5th Fred Daly of Homerton College described *Image*, *3D Logo*, *Kaleidoscope* and a History package to another group of 35. This very successful meeting was enjoyed by all. The Dorset committee are very keen and future meetings are planned; they even have their own newsletter!

On Saturday June 18th Chris Robson (the MAPE Overseas Representative) will venture overseas! Chris has agreed to travel to the Isle of Wight to talk about 'Computers in the Infant Classroom'. She and Albert, the mouse, are going to tell us Fairy Tales!

The Channel Islands remain very distant; if anyone would like to promote a MAPE gathering in the Islands I will do my best to assist.

The Southern Region functions only because many hardworking teachers give up their time to organise, to plan and to host events, activities and gatherings, to all of them a sincere thank you: your efforts are very much appreciated.

The following serve as various LEA contacts:

1. Dave Kitching, Isle of Wight: 0983 866162 (home)
2. Peter Aitchison, Hampshire: 0329 237388 (home)
3. Chris Robson, Berkshire: 0734 62751 (Computer Centre)
4. John Bennett, Dorset: Southwell CP School, Portland
5. Newton Coen, West Sussex: 0243 552773 (home)
6. (volunteer needed), Channel Islands

Dave Kitching

Berkshire area

Don't worry Berkshire, you've not been forgotten! We had arranged a meeting for the Spring Term but for various reasons this had to be postponed. It has now been rearranged, and will take place on Monday, 16th May at the Berkshire Computer Centre in Woodley. We shall be looking at some of the packages available for Desk Top Publishing, and there will be an opportunity to try these out.

Chris Robson

Overseas

I have received a number of letters from overseas members, and, as promised, here is a digest of their news.

John Buchanan writes that computers are still making their way into primary schools in New Zealand. At the last survey, about 50% of all primary schools had computers, usually one or two machines. Although there is no direct government funding to help, there have been some exploratory studies into the uses of computers in schools. Participating schools were loaned equipment for the duration of these studies, and had an option to buy that equipment at the end of the study. Schools otherwise raise funds (a familiar story in the UK as well!) to buy computers, the most popular being the Apple IIe, Acorn BBC and Commodore 64. The Department of Education has four full-time advisers and one seconded teacher to cover curriculum aspects of computers in its 3500 primary and secondary schools! During the summer break in January, the national Computer Education Society held very successful and popular courses dealing with computers

in primary schools. John suggests that they might host an International MAPE conference one year. By the time you read this, he will have been to this year's conference, seen what this offer might involve and will also undoubtedly have been asked to write a short piece for a future *MICRO-SCOPE* about it, so let's hope that this does not make him think again about such an attractive offer!

Beth Ceccini teaches in St George's English School in Rome, where the 350 pupils in the primary section share eight BBCs, one concept keyboard and one printer. Their comprehensive software list has a familiar look, with titles such as *Droom*, *Box of Treasures*, *Infant 1* and *Facemaker*, not to mention *MAPE Tapes 3* and *4*. Margaret Mirza of the British Overseas School in Karachi has had work stations in constant use in every classroom for over four years and gives lectures and demonstrations for their Teachers' Resource Centre to try and spread the good word.

Beth and Margaret are among those overseas members who have expressed a need for information about 'good' software currently available, and in response to these requests, I have now prepared a short information booklet. This lists a dozen or so software companies whose catalogues I believe they would find useful, together with other miscellaneous information. If any overseas members would like a copy of this booklet, do write and ask me for one (a contribution towards postage would be appreciated).

I look forward to being able to include more news from overseas in the next *MICRO-SCOPE*.

Chris Robson

Concept Keyboard 'Special'

I would like to compile a collection of concept keyboard overlays. If you have drawn, used or borrowed an overlay which you think is good and which you would be willing to share with others, please send me a photocopy, indicating clearly the colours used and the program the overlay accompanies.

It would be useful if you could write a couple of lines about what the program does and how it is used.

Many thanks,

Reg Eyre,

College of St Paul & St Mary,

The Park, Cheltenham, Gloucs GL50 2RH.

Logo

Reg Eyre has produced another book of ideas for Logo. This one is entitled *Learning to Live with Logo*. It costs £2.50; please make cheques payable to the College of St Paul and St Mary and send them to Reg (for address, see inside back cover).

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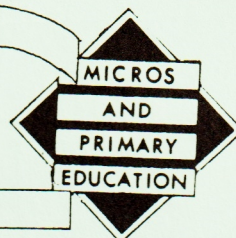
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