

# MICRO- SCOPE

► Issue 41

► Spring 1994



- Preparing for SATs
- Into Europe!
- Computers around the world

- Building lighthouses
- Multimedia
- Software reviews

NEWMAN COLLEGE with MAPE

# Contents

Computers around the world	<i>Philip Griffin</i>	1
Focus on multimedia: Magpie, a parrot or curlew	<i>Mick Kerin</i>	3
<i>Talking books</i> evaluation		5
'But we're only a primary school ...'	<i>Lucy Brown</i>	7
Into Europe!	<i>Luke McAuliffe and pupils</i>	8
IT and topic work at Key Stage 1: preparing for SATs	<i>Marg Lester</i>	10
Building lighthouses	<i>Chris Taylor</i>	16
MAPE matters		
<i>MICRO-SCOPE</i> matters		19
MAPE Software Special		19
Chairperson's news		20
MAPE Working Groups		20
Regional news		23
MAPE software		24
Reviews:		
<i>Aztecs</i>	<i>Doug Weller</i>	25
<i>Junior Chat</i> —Electronic Mail for Junior Schools		25
<i>Landmarks: Tudors and Stuarts</i>	<i>Doug Weller</i>	26
<i>Cartooners</i>	<i>Stuart Watson</i>	26
<i>Talking Books</i>	<i>Reg Eyre</i>	27
<i>Badger Trails</i>	<i>Adam Weymouth</i>	27
<i>Music Box</i>	<i>Ben White and William Dobbie</i>	28
<i>Control Pip</i>	<i>Chris Robinson</i>	28
<i>Screen Turtle</i>	<i>Chris Robinson</i>	31

Editor                      Chris Robson  
 Illustrations            Jenny Russell

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 ISSN 0264-3847

Correspondence to the Editor: *MICRO-SCOPE*, 99 Foxcote, Wokingham, Berkshire RG11 3PG

**MAPE (Micros And Primary Education)** is open to individuals and institutions. The current subscription of £15.00 p.a. UK, £20.00 p.a. overseas, includes direct mailing of **MICRO-SCOPE**.

Application forms from: Mrs G Jones, 'The Old Vicarage', Skegby Road, Normanton on Trent, Notts NG23 6RR.

Published by Castlefield (Publishers) Ltd.

**Individual copies** from: Castlefield (Publishers) Ltd., Castlefield House, 12 Headlands, Kettering, Northants NN15 7HP

MAPE reference for Income and Corporation Tax relief on membership fee: T1644/23/1986/MT

Charity Commission reference: OSP-292898-R Reg. No. 292898

MAPE is grateful for the support received from Acorn, Apple, Cumana, IBM, Microvitec, Commodore, Research Machines and WWF UK.

VAT Number: 544 8661 18

Produced by The Castlefield Press, Kettering, Northants

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# MICRO-SCOPE 41

## Computers around the world

**Philip Griffin**

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'What educational software do you recommend for a Toshiba computer?'

'My children have enjoyed using *Fun School 3*; what can they go on to next?'

'What type of computer do you recommend me to buy for our children, but which I can use as well?' These are the kinds of question that the Worldwide Education Service is asked about computers.

The Worldwide Education Service is exactly what it says it is, an Education Service that covers the entire world. Although Britain's influence on the far corners of the world is diminished nowadays, there are still many Britons and other English-speaking families who work overseas. Often no English-speaking school exists in that particular region, and families are faced with either sending their children to boarding school or educating them at home. Many families are now choosing this latter option. Other families, through individual circumstances, choose to educate their children in the home environment, both abroad and in the UK. It is these families that call upon the expertise of the Worldwide Education service and its primary Home School courses.

Families are supported in a variety of ways, but the main thrust of the assistance is through the provision of courses based on the National Curriculum, for children between the ages of three and twelve years. The courses are written with the non-teacher-trained parent in mind and are based on textbooks that will be familiar to all primary teachers as some of the best resources for teaching this age group. All relevant books and equipment packs are stocked in the WES office in Central London.

The support of families does not end there, however, as WES also employs tutors, all of

whom are experienced primary teachers. The tutors are in regular contact with the families and offer advice and support to parents who may have had little experience of teaching. If there is any concern on the part of the parents, the tutors offer professional advice. In addition, parents and children fill in records of achievement once a term which they mail to the tutors, along with samples of their work for their tutor to assess.

The ultimate aim of the programme offered by WES is that when the children return to their local primary or secondary school, they are at the same level as their peers. To do this it is necessary to cover, as far as possible, the entire range of the National Curriculum. To this end, WES provides all the practical materials necessary for work in such subjects as Maths and Science. The one area of difficulty is IT, and particularly computers. This is where my role as IT consultant is of assistance.

On first becoming involved with this task, I found the range of problems overwhelming. The range of queries reaching me was large and varied. The queries above are typical. As an IT co-ordinator in a primary school, my knowledge of software for Acorn computers and their practical applications was well developed but nothing had prepared me for the myriads of types of computers that were in existence, many of which were not available in the UK.

The first task was to try and find out what facilities each family had. This would enable a proactive rather than reactive response to queries. A questionnaire was sent out, and the returns revealed a long and varied list of computers and other equipment that could be used for some IT purposes. The majority of families owned IBM compatible computers and the decision was then taken to offer extra

support. This was achieved through publishing a booklet on the software available for IBM compatibles which supported the WES study units and through them the National Curriculum.

At the time of starting on the booklet there was very little software available for IBM compatibles of the high quality that most of us are accustomed to. Over the course of the past few years this has altered, partly due to the compatibility of RM software with IBM machines. This question of compatibility is still the major problem with IBM computers and their clones. Unlike Acorn, for example, which has two distinct generations of machines, IBM compatibles followed a more evolutionary approach. So different software requires different amounts of memory, differing versions of MSDOS, different graphics capability, compatibility or otherwise with Windows, and so on. Precise answers to queries are therefore very difficult, as quite often the owners of the computers are unaware of the true nature of their particular beast. For machines which are reasonably up to date, WES is now able to recommend software which covers most aspects of the Information Technology National Curriculum Document.

The listing of recommended software for IBM machines in a booklet enabled most of the firefighting activity to cease; when enquiries were made they could be referred to the booklet by the tutors. The next stage was to recommend a computer for families who were anxious about which type to purchase. A second leaflet was therefore produced, which explained computer terminology. The aim was also to try and ensure that families examined their reasons for purchasing a computer to enable them to make the most suitable choice. No firm recommendation was given for families who wished to use a computer for work as well as education, but for those who wished to use computers for education only, I recommended Acorn machines. This in turn led to a third booklet, which listed the WES recommended software for Acorn machines.

One aspect in which WES families are very different from the children in a school in this country is their access to IT. In a school situation we tend to use IT in the 'best possible' way: that is to fulfil the appropriate areas of the National Curriculum and not for computer aided learning. With the WES families, the ratio of computers to children is far better than even the best resourced primary school, and so the use of CAL is perhaps more legitimate. There is almost an ethical issue here; with unlimited access to computers, should they be used for

long periods of time, to learn other areas of the curriculum? However, such discussion is beyond the scope of this article.

There are still many areas which require further development. I am very aware of the families which are still unsupported. There are several families who live in locations without mains electricity, or where the mains is very erratic and fluctuates wildly in voltage. For those families the Acorn Pocketbook may help to introduce the children to computers. There are also other families who cannot afford to purchase a computer, but do have access to such items as tape recorders, cameras and video cameras. Here WES hopes to help by showing how some stage of the IT curriculum can be covered by using such devices to record and edit information.

The other area which is still requiring further work, is guidance to families on the kind of activities children should be introduced to on the computer. Guides to such activities as wordprocessing, Logo and databases would be useful. Although parents receive the teachers' books that go along with software, these are not always as useful as they could be.

Over the past few years, Worldwide Education Service's support of IT has improved greatly, and families are now able to receive advice quickly and easily. Supporting Information Technology Worldwide has proved to be a challenge but one which is now being met.



## Focus on multimedia:

### *Magpie, a parrot or curlew*

**Mick Kerin**

*Year Four Teacher, Sacred Heart Primary School, Sandringham, Victoria, Australia*

It would seem the use of the microcomputer in publishing children's work has many benefits. My experience with children using a computer for publication of work would seem to suggest that quality and quantity are improved. Children are impressed with the high quality of the resultant publication of their work. They appear to find the computer a stimulating tool. There never appears to be a shortage of volunteers to work at the computer.

The video camera is another powerful motivator with regard to children's learning. Children clamour to be seen on the video and can appear to be even more excited when they see themselves on a video tape played back. With many multimedia packages available we are able to combine video images, sound and text. However in doing so we must be careful not to re-present an activity for the sake of using the microcomputer. There may be far more appropriate media available. I am sure we have all experienced seeing a most elaborate memo from a colleague made with all available fonts, sizes and graphics, advertising a regular staff meeting or mundane task. The waste of valuable technology and time is similar to wasting the power of a link with video images, sound and text. We must offer the children more than just an electronic page-turning device.

I have recently been working with a package that fronts the link between video, sound and text. My first crude attempts developed as talking books. They were called 'My Family' and 'Autumn'. These were produced in the *Magpie* format. This is a multi media program that allows students to present work in a variety of formats. The children spent a great deal of time drafting and conferencing their work. Time was taken to film the required actions for the story line and the text and sound were carefully matched. This process was difficult yet rewarding. The programme was prepared on an Acorn A5000 with the HawkV9 digitiser and an Oak Recorder and then run on a Acorn A3000 with 2 Meg of Ram and 3.5" discs formatted to 800 K. The sound and image files use a great deal of memory and so all the files had to be efficient

in presentation. Sound files were timed to the tenth of a second in order to save disk space. The educational experience of making the book was justification for the exercise alone. The work was produced by year six students for children from prep (aged 5) who were focusing their study on themes of autumn and family. The children that produced the books were very pleased with the final product and were eager to produce more. The prep children were also enthusiastic in their use of the books.

I later had year five children use the programme to create the 'Innisfail Farm' binder. This contained some more elaborate page links. The process of making the binder and pages followed a slightly different process from the initial talking books. The video tape of the excursion from the previous year with prep children was viewed by year five students. A discussion about the expectations of young children regarding farm animals was held and input from the English as a Second Language (ESL) teachers was called on. Animals were chosen to feature from previous years experience. The language associated with these animals was drafted, conferenced and a dummy book was drawn up with appropriate pictures. This data was then transferred to *Magpie* and an electronic book made with video images, text and sound files. A more complex 'page-turning' set of buttons was used which allowed children to move from and to any page in the book by selecting the page number. The book was then presented to the prep children as a pre-excursion activity. The text and similar hand drawn pictures were also prepared as concept keyboard overlays and used with *Conform* and *Phases2* to further enhance the learning experience. I am sure the year five children gained from the experience in terms of using concise, language, improving their syntactic skills and as Plomp (1990:857) suggests

'... the principals of programming were also applied and therefore developed.'

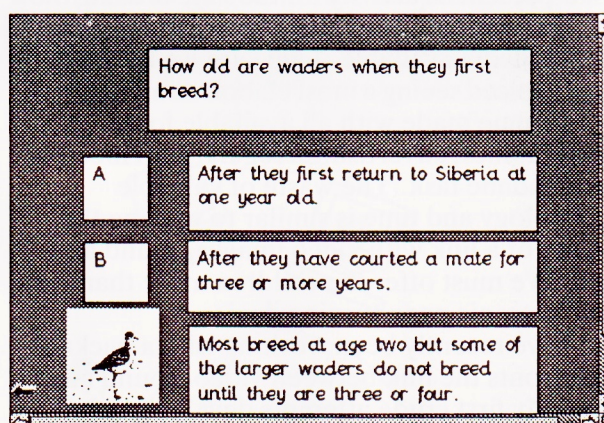
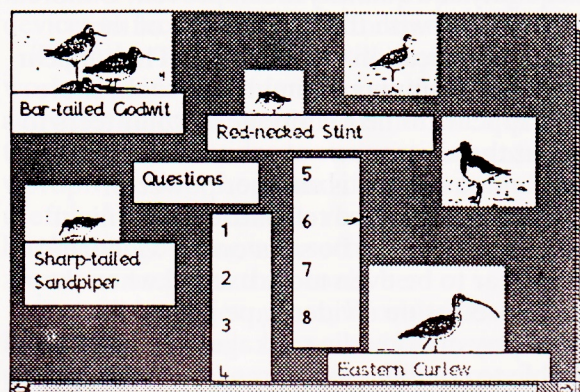
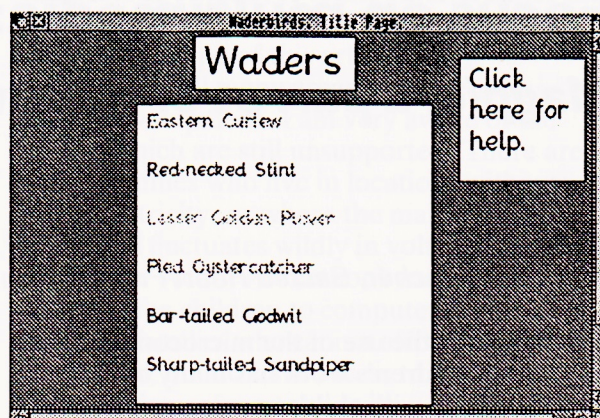
The prep children had also enhanced their language experience in terms of the oral, read

and written language. However I was still frustrated at the conclusion of the exercise.

The *Magpie* program was not being used to the full capacity in terms of allowing the children to interact with the computer. A few years ago a powerful program called *Touch Explorer Plus* was introduced to the BBC Master computer. This program allowed the user to explore the computer via a concept keyboard. The notion of allowing the user to touch the concept keyboard and move around the program appealed to me as a learning opportunity that could be developed further. I became an avid user and prepared many files for educational purposes. One file related to Sovereign Hill allowed children to explore the township and take notes to prepare an itinerary for a future visit. Another allowed the children to explore a blank overlay and so produce a map after the exploration. The program has many uses and is currently being used with the international project 'Waderbirds – an Odyssey of the Wetlands'. This is an environmental arts project celebrating the migratory flight of the Eastern Curlew. With this file the children are able to touch the overlay of waders to explore various features of these magnificent birds. I was fortunately allowed to participate in this project using the *Magpie* program to complement the *Touch Explorer Plus* files.

It was here I was able to stretch my understanding of *Magpie* and, through a series of complex page links, offer a more interactive file. Each page of the binder consists of at least some text and simple page turning buttons. Most have sound and graphics with buttons that allow the student to explore the page to reveal more information in detail. I was able to place buttons on top of text boxes, graphics and sound files. These buttons allow the user to reveal text or graphics with appropriate sound files to match. An example of this is the graphic for a bird which can be explored to reveal the name. Another example is on the supplementary program where there are questions and, as the correct answer is selected, a bird graphic and bird sound are revealed. This proved to be a real hit with children using the program. The graphics for the program were *!Draw* files that had been scanned thus saving space as sprites use more memory than *!Draw* files. The sound was once again a limiting factor due to the size of each sound file at around 10,000 bytes per second of recording.

The bird sounds were constantly being sought as other parts of the program were overlooked: a humbling experience but nevertheless a good lesson in the need to maintain touch with what



Waderbird screens, from *Magpie*.

the children can and want to do with the program.

*Touch Explorer Plus* and *Magpie* complemented each other beautifully in that one was mouse-driven with sound and graphics and the other was run by a concept keyboard and was text based. Each allowed students to explore in as much detail as they wanted. The *Touch Explorer* file allows the children to make notes within the program that can be printed or saved and used in another word processor. The *Magpie* 'Waderbird' file will allow printing

whilst in the browser stage and for those with the *Magpie* program the children will be able to access the graphics, text and sound files to represent their interpretation of the 'Waderbirds – An Odyssey of the Wetlands'. This I suggest is the most useful part of the package for it allows the children to construct their understanding for others to share.

Children, as suggested by Hill (1989:10), are positively influenced by an audience with respect to writing and I suggest this is true with respect to all types of presentations. I also believe that this is consistent with adults and their needs. There can be no better audience than your students.

In terms of the constructivist theorists the children should be given the chance to develop skills of making and running the program through modelling various uses, structures and procedures. One ten-year-old who had been watching me work with the program asked me if it were possible to make a 'Jeopardy' screen. I spent a short while planning the screens and buttons and was able to reproduce something similar although I'm not quite sure of the educational value of such a screen. The format would allow children to put together a screen quite simply with video-image-related text and/or sound and a text or sound answer to check the pupil's response. Perhaps the children could summarize a topic to give fellow students a fun quiz whilst they played Tony Barber. It would fulfill the belief of Schmidt (1990:622) that

'... projects may form relevant, motivating and meaningful frameworks for many activities with or without the EDP. But

projects without some sort of structure or objective can also just consume time without much effect. It is important in this connection that the teacher contributes actively and supports in a flexible way the pupils' ideas and activities, in order that the project may lead to a positive and useful experience.'

Therefore we should use the multimedia packages to act as a front or stimulus for a project or presentation. Indeed it would be even better if the children could devise the presentation themselves. This I suggest would be a relatively simple task for the children given the ease at which children handle the program. The children begin, as with anything new, by learning the rules of the game. As the rules are mastered strategies are then able to be developed. The children are then able to offer more and more suggestions as to how to use the program. Some may not appear educational but they will be relevant to the needs of the child and with the appropriate structure a useful experience for the child as well.

## References

- Hill, K, (1989) *My mind has walls* . . . Nelson: Melbourne, p. 10  
 Plomp, T, (1990) 'Information Literacy and Computer Literacy – The "Mixed" Approach in the Netherlands', *Computers in Education Proceedings WCCE90*; editors McDougall, A, and Dowling, C, p. 857  
 Schmidt, E, 'Reality is an Unending Fairy-tale', *Computers in Education Proceedings WCCE90*; editors McDougall, A, and Dowling, C, p. 622

## Talking books

Modelling language is an important part in the development of both oral and written language for infant children and especially important for ESL students. The students at St Bernard's follow a diverse and enriching ESL programme that includes many excursions related to thematic work. One such excursion is to Inissfail Farm at Werribee. The farm theme is worked through all areas of the curriculum, particularly language. With this in mind I brought together six Year 5 students to assist in a cross-age tutoring programme with the infant children.

The object of using the Year 5 students was for them to construct sentences relating to the experiences the prep children would have when

they went to the farm. This was done by viewing a video of the farm they would be visiting. The key areas of the farm were then listed. These areas were placed onto a flow chart and labelled. The Year 5 children then volunteered to write a sentence for each area. The sentences were then conferenced within the group to establish meaningful text in an efficient format. This was necessary for two reasons. Firstly due to the restriction of space taken by sound and sprite files, and secondly due to the text being developed for prep children, This allowed the children the opportunity to write exactly what they meant. This can be seen in the first draft of the 'In the milking shed the farmer milks the



## 'But we're only a primary school . . .'

**Lucy Brown**

*Marketing Manager, Primary and Special Needs, Research Machines plc*

From experience, when trying to present the arguments for industry standard computers in primary schools, it seems that teachers often believe that the best computer to use with their young pupils is one that will deliver the simplest software, and many are happy to continue using older computers and very basic programs.

Arguments about the use of 'mainstream' or industry-standard computers in education are usually regarded as irrelevant when considering the IT experience of primary-aged pupils. We all know that it is impossible to forecast, in this fast-moving technological world, the skills that will be needed by primary pupils later in life.

What we do know, however, is that they will need basic skills that they can transfer to secondary education and the world of tomorrow. In fact, recent research carried out by Nielson shows that 80 per cent of businesses and colleges believe that it is important for school leavers to have had experience with IBM compatible systems while only 10 per cent believe it is important for them to have experience of Acorn computers.

Computer applications, such as word processing, spreadsheets, desktop publishing, graphics and databases, are becoming essential to people in all walks of life. The use of computers is maturing and stabilising. Standards are being established and common factors that will be with us for many years to come, such as IBM compatibility and Windows, are emerging.

But simply putting computers designed for users in an office environment into the primary classroom is not enough.

Research Machines strives to ensure that younger learners can take advantage of the best of both worlds, combining world-beating software and technology without having to sacrifice educational standards. Tony Gazzard, the Head Teacher of Drake Primary School in Plymouth, in an article published in the May edition of *Education Today*, says of Research Machines:

'... RM at least has realised that simply bundling business software plus Microsoft

Windows into a PC and pushing it out to schools is not the answer.'

RM's strategy has been to develop the RM Window Box range of computers, which, as Tony Gazzard says:

'... make business-standard software really work in an educational setting giving young children (and less confident adults) access to powerful tools such as the Word for Windows word-processor and the *Excel* spreadsheet, without being intimidated by a huge range of options. Pupils can be assured of continuity in a standard range of developing products used worldwide in business, and fast becoming the standard in secondary schools.'

Mr Gazzard believes in providing his young learners with the best on offer, introducing his pupils to exciting, yet easy-to-use computer systems. He does not think of his school as *only* a primary school. It is a stimulating environment in which pupils can learn and use the computers around them to enhance that learning.

Primary schools can no longer feel confident about following a strategy that ignores what is happening in the world around them. Pupils, as well as teachers, should have access to the best the world can offer and Research Machines makes this possible.

RM offers an exciting range of resources for Primary IT, including a range of industry-standard computers, multimedia systems, software and learning materials, all aimed at ensuring that the IT experience of primary aged pupils is as rich as possible.

The new RM Window Box is the latest computer in the Window Box range including a system with a built-in sound card and also a full multimedia system. A mainstream computer with a fast 486 processor, able to run PC-186, DOS and the latest Windows software and supplied with the acclaimed *Talking First Word for Windows*, *Excel Starting Grid*, plus a range of other exciting cross-curricular Windows software and RM's exclusive educational database – *Information Workshop*, the RM Window Box is the primary choice for the 1990s.

# Into Europe!

**Luke McAuliffe and pupils**

*CBS Primary School, Youghal, Co. Cork*

## Into Europe!

We found MAPE's *Into Europe* package exciting from the very beginning of our study. Work on the project began with my fourth class at the beginning of the second term.

Having introduced pupils to the package and having familiarised them with the concept keyboard, I found that pupils' ideas on how to develop the project and make it their own, flowed freely. We began by taking an imaginary holiday in France. Having examined the problems that might face us, we persuaded a fifth class teacher to teach us some French. We looked at the ferry routes we might take from Ireland and the cost of the trip, and visited the local travel agent. It soon became clear that some of the work for this project would have to be farmed out.

## Model ferry

The resource teacher Mr Ted O'Brien was presented with a BBCB and a concept keyboard, and commissioned to produce a model car ferry – 'Dinky cars must fit into it, Sir' being the only stipulation. Pupils in the resource class rose to the challenge; plywood, fretsaws, wood, glue, and the plans of a car ferry were obtained. Local advisers were called in. We quickly lost count of the number of fretsaws and blades that were broken, but soon the ferry began to take shape.

## Youghal long ago

Meanwhile, some Fourth class pupils were working furiously on a model of Youghal at the beginning of the seventeenth century. Others made concept keyboard overlays comparing our food and customs with those of our European neighbours.

The class was divided into six groups; each group took one European country for an in-depth study. Parents, friends, and local businesses were called upon for help. Mothers and fathers found themselves searching through

cookery books to track down the ingredients of strange exotic dishes. Youghal's twin town, Larmor-Plage in France, was the focus of much attention. *Tele-Book* was used to display some of the information on each country.

We can't say the project is completed because we still have lots of ideas to work on, but we have gained worthwhile experience of wordprocessing, Logo and data handling. We've had hours of useful discussion, learned much about our own town and country, and become very conscious of the fact that we're Europeans. Overall, the project was a very positive and rewarding experience.

## Pupils' accounts

In this project, we compare seven European countries, France, Spain, Italy, Germany, Greece, Holland and Ireland. We have an imaginary friend in each of these countries, and he tells us about his own country (see examples in boxes below). To help us with this study, we used a concept keyboard, BBC Master 128 computers, a wordprocessor called *Edword*, a display program called *Tele-Book*, *The World Book Encyclopaedia*, Logo, *Stylus* (for making overlays) and a program called *Into Europe* from MAPE. We got help from our parents, our teachers, and our friends.

## Our model ferry

First we got the plans of a car ferry from Brittany Ferries, Swansea-Cork Ferries, and Irish Ferries. We put the plans on the concept keyboard. This showed us the plans of each deck. We bought a sheet of plywood and six fretsaws, and cut out each deck. This was hard work. Next, with the teacher's help, we cut out the frame of the ship. We cut out the funnel, and put all of the parts together with nails and glue. We made the inside parts – the engine, the car decks, the cabins, the bar, the information desk, the cafeteria, and the bridge. Railings were made out of lollipop sticks and matchsticks. People and lifeboats were made out of plasticine. Putting all the parts together was the hardest work. When it was finished, we painted our ferry.

To explore our car ferry, you look at the plan on the concept keyboard. Press on the part that you want to find out about; the information will appear on the screen. You can see which deck you are on by looking at the bottom left corner of the screen. You can change decks by pressing on the stairs.

### *Youghal-Larmor*

It is interesting to compare Youghal (a town on the south coast of Ireland) with Larmor-Plage on the west coast of Brittany, with which Youghal is

twinned. Youghal is a very old town and was once a very important port on the south coast of Ireland. Larmor-Plage is a relatively new town, and up to the beginning of this century consisted of little more than a few cabins belonging to fishermen.

### *Displays of work*

Examples of our work about other countries was displayed on large wall charts. We really enjoyed doing the project.

#### **FRANCE**

Bonjour! Je m'appelle Pierre. J'habite en France. My people are French. France is a republic, and Paris is our capital city. The French flag has three vertical stripes: blue, white, and red. Our coins are called centimes and francs (100 centimes = 1 franc). I went to playschool until I was six. I go to school on Saturday, but not on Wednesday. I like the Asterix stories, and can sing Alouette. I go skiing in the mountains, play boules, and watch the Tour de France. On July 14th, we celebrate Bastille day.

#### **GREECE**

Hallo! My name is Nikos. I live in Greece, and my people are Greek. Athens is our capital city. The Greek flag has narrow blue and white stripes with a small white cross in the top left-hand corner. Our currency is the drachma (100 lepta = 1 drachma). Greek civilisation is very old. Athens and Sparta were two famous city states. I know many stories about Gods and heroes of Ancient Greece. Homer was a famous Greek writer. He wrote the Illiad and the Odessey. Many tourists visit my country to see the ancient monuments, and because we have a lovely sunny climate.

#### **HOLLAND**

Goede Dag! My name is Jan. I live in the Netherlands or Holland. My people are Dutch. Amsterdam is our capital city. My flag has three horizontal stripes: red, white, and blue. Our currency is called the guilder (100 cents = 1 guilder). The Netherlands is a monarchy, and our queen's name is Queen Beatrix. I started school when I was six. I like the story of Pieter and the dyke. In winter, I go ice-skating on the canal. Indonesian food is popular here because many people from former Dutch colonies in South East Asia live in the Netherlands.

#### **SPAIN**

Buenos Dias! My name is Manuel. I live in Spain. My people are Spanish. Madrid is our capital city. The Spanish flag has three horizontal stripes: red, orange, and red. Our currency is the peseta (100 centimos = 1 peseta). Spain is a Monarchy. I started school when I was six. I wear a smock to keep my clothes clean. We have fiestas to celebrate Holy Days. After lunch when it is hot, we have a siesta. In Spain we grow oranges. In some parts of the country we hold Bull fights.

# IT and topic work at Key Stage 1: Preparing for SATs

**An IT Across the Curriculum Project with teachers  
and children from four Sheffield Schools:  
Mundella IJ, Fox Hill NIJ, Lydgate I and Mansel NIJ**

**Marg Lester**

*Primary Advisory Teacher for IT, Sheffield LEA*

## Introduction

This article describes how an advisory teacher worked with four infant school teachers and their classes on topics with a substantial IT element. The teachers initially lacked confidence in working in IT, but during the process not only acquired the necessary skills and techniques but also, without realising it, were preparing themselves for SATs (Standardised Assessment Tasks).

As a seconded primary IT advisory teacher in Sheffield, one of my roles is to work closely with schools on a project for a whole term. Schools bid into this scheme and this article describes the involvement I had with four of them. Each of the schools had two project teachers, but this article only deals with those of the Y1, Y2 and Y1/2 classes, none of whom thought of themselves as computer-competent.

## The Schools and the Projects

**School 1** serves an area of mixed council and private housing and has 320 children on roll. The Y1 class comprised 17 boys and 14 girls. It possesses five BBC and three A3000 computers.

The topic was '*Dinosaurs*' and involved a comparison of extinct and living animals, classification into herbivores, carnivores and omnivores, and investigation of habitats, physical characteristics and different methods of reproduction. It was planned to make use of modelling in different media, plaster-casting of footprints, dinosaur songs, 'The Carnival of the Animals' music, and display items such as models, mobiles, a frieze, and a timechart extending from the present back to the time when dinosaurs roamed the earth.

**School 2** is in a middle-class area of Sheffield. It has 380 pupils on roll. The Y1 class involved in the project consisted of 16 girls and 15 boys. The school has eight BBC computers and one A3000, shared between thirteen classes.

The title of the topic was '*Houses and Homes*', which aimed to investigate building materials, looking at varying types of buildings with emphasis on testing, sorting, and comparing homes and lifestyles. This involved a visit to a farm and a building site, modelling houses, building a brick wall, and setting up an estate agent's office.

**School 3** is in the middle of a very large council estate. The class consisted of 22 Y2 children and 4 Y1, of whom 17 were girls and 9 boys. The school possesses four BBC computers and one A3000, which are shared between eight classes and the nursery.

The topic was '*Books and Stories*' and emphasised the fun of reading by looking at different types of books, together with investigating such things as the size, age, and physical quality of books, and noting aspects of text and illustrations. Making recycled paper and constructing a personal book were among the planned activities, as were visits to a library and a bookshop, although the main focus was on the skills of listening, telling, sharing, and enjoying stories.

**School 4** is situated in a suburb of private housing and has 270 children. Those involved were 12 from Y1 and 16 from Y2. There are seven BBC computers, whose use is timetabled between all classes, meaning that in practice the project class had access to a computer for about three and a half days a week.

The topic title was '*Air*', and the plan was to collect and record weather observations, to

investigate wind speed by using kites, paper boats and gliders, to observe the physical effects of wind, and to research into the history of flight. Practical activities included the designing and making of kites, using a parachute, and experiments linked to breathing and exercise.

Introducing IT into the project

In preparation for the six half-day visits I was to make each school, the teachers visited the computer centre for a half-day planning meeting. There was also a requirement that another half-day INSET be allowed at the end of the project and each teacher should have a computer in the classroom for the duration of the project.

In the first half-day session the full IT involvement was emphasized and ways of integrating the computer were looked at. In the teachers' own initial planning IT links had not been made, but, by focussing on specific IT strands in the Non-Statutory Guidance of the National Curriculum, I was able to introduce relevant programs, and the teachers had a chance to assess their value. I realised that without my support there would have been very little IT involvement in any of the topics, not because of lack of interest, but mainly from lack of knowledge of the kind of input a computer program can give.

At this stage there was no mention of SATs, as the guidelines for Key Stage 1 assessment had not been published. However, all the teachers were aware of their imminent arrival. But they were more concerned about finding ways of using IT to enhance the work in the classroom, to make the topic more stimulating, and to add new dimensions to their children's work.

After the meeting the teachers went back to their schools to investigate the relevant

computer software more fully and to set up the computer system in the classroom, including a printer and, if possible, a concept keyboard. All the teachers were using BBCs, either because they did not have A3000s in school, or because they were allocated to older children (as is all too often the case).

Implementation

**School 1 (Dinosaurs):** The teacher immediately involved IT by using the word processing program *Prompt/Writer* in conjunction with an A3 concept keyboard and simple overlays.

With the idea of a time-line in mind, the first overlay had selected pictures linked with adjectives describing age, such as 'young', 'old', 'ancient' and 'extinct'. The class soon grasped the idea of the concept keyboard, and the teacher was quick to observe how it developed the children's confidence. Further overlays were made for various ability levels (Figure 1). *Font Editor* on the *PenDown* Toolbox disc was used to create dinosaur pictures, which were put into the *Signwriter* program and printed out in banner form (Figure 2).

All about dinosaurs by - - - -				
Stegosaurus	ate	plants	meat	from
Pteranodon	hatched			eggs
Tyrannosaurus	lived	on land	in the air	fights
	and	in water		
Brontosaurus	had	long neck	large teeth	spikey tail
	a	long tail	huge body	huge wings
Here is my favourite dinosaur				

Figure 1 A dinosaur overlay.

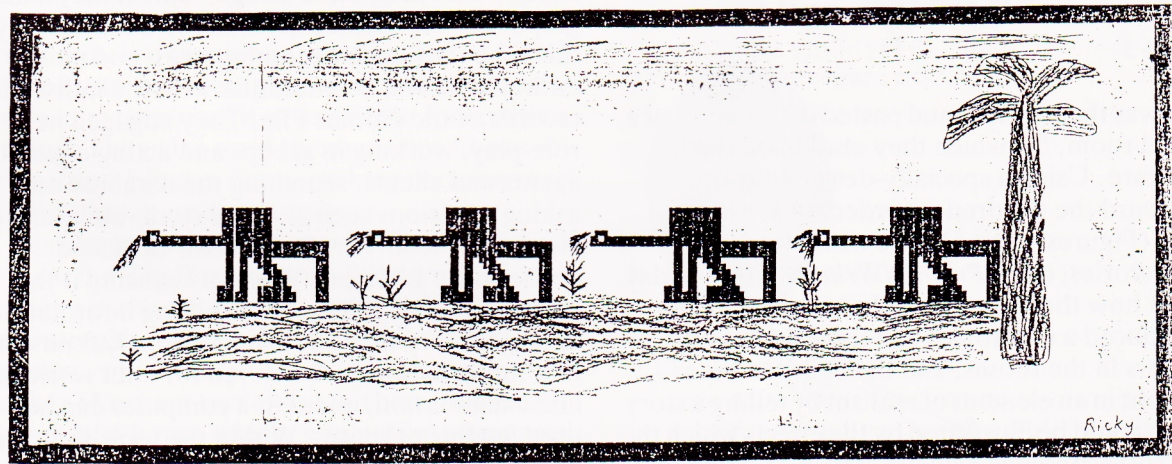


Figure 2 A dinosaur banner.

The communication strand of IT at Key Stage 1 was covered in great detail by this class, with the concept keyboard playing a prominent part. This is entirely in line with National Curriculum guidelines, which point out that 'alternatives to the conventional keyboard, such as the overlay keyboard, enable young children to spend more time thinking about their work rather than struggling with a complex keyboard.'

#### Capability Strands covered

Communication  
Handling Information  
Applications and Effects

Our room gets decorated.									
The wallpaper is	red	pink	blue	green	yellow	orange	black	multi-coloured	and
The curtains are	striped	plain	patterned	spotted	flowered				
With a	without a	border							
I think our room looks	brilliant	😊	O.K.	😊	not very good.	😞			
The colours we have chosen are	pale	bright	dark	Contrasting					
How we are going to use our room									

**School 2 (Houses and Homes):** The children used the program *Patterns* from the package *Design Words and Images* to create a wallpaper design of a room of their choice (Figure 3).

Lindsie

I have made a design for my room  
The design is for the wallpaper  
The colours have chosen are purple  
and red  
I am happy with it  
I have made curtains of the design  
Hannah helped me design the pattern  
Here is my pattern

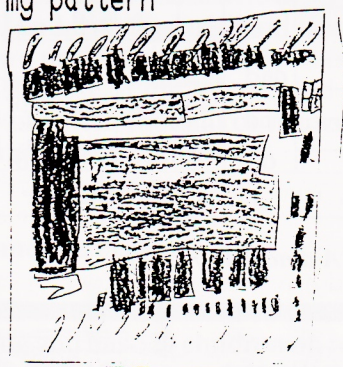


Figure 3

This was then printed and pasted on the walls of a model room, for which they also made the furniture. Using a specially-designed concept keyboard the children recorded what they had done (Figures 4 and 5). The next stage was to write stories, using *Prompt/Writer* and an overlay, about how they would use their rooms. I then introduced a control kit and used lights and buzzers in the rooms, and the children then brought in an element of realism by telling a story which could be illustrated by the effects which the control technology achieved (such as 'Suddenly all the lights in the house went out. . .').

Figure 4 Overlay keyboard for room design.

Laura and Rebecca

our room gets decorated

The wallpaper is pink and green  
The curtains are patterned  
without a border  
wethink our room looks brilliant  
The colours we have chosen are bright  
and dark  
We are going to use our room  
to eat and sleep and water  
the flower and turn on  
the light and sit  
down and look at the clock

Figure 5 Text written using the overlay in Figure 4.

To create an estate agent's file the children collected detailed information about their own home and entered this into a database program called *First Facts*. Then using *Graph-It* they made graphs for the various fields in the database. By this time they were becoming more and more enthusiastic and very familiar with the individual records of the Homes File. They engaged in role-play, working in groups and acting as estate agents and clients, searching the database and asking questions such as, 'Are stone-built houses always terraced?' or 'Do all semi-detached houses have garages?' Without realizing it the children were fulfilling the handling information strand for Key Stage 1, level 3, namely 'knowing that information can be stored for later retrieval and examination, and that a computer can be used for this purpose'. Within the topic this class of Y1 children had covered all the set levels for Key Stage 1 in all the capability strands and had

real understanding of the usefulness of the computer in helping to simplify tasks.

*Capability Strands covered:*

Communicating  
Handling Information  
Measurement and Control  
Applications and Effects

**School 3 (Books and Stories):** As an introduction to the topic I used a cloze procedure program, *Infant Tray*, and through this the class deciphered the message and revealed the topic. This program was also used later in the term as an introduction to new stories. *Graph-It* was used for collecting, sorting and rearranging information about favourite books which had been read to the class (Figure 6).

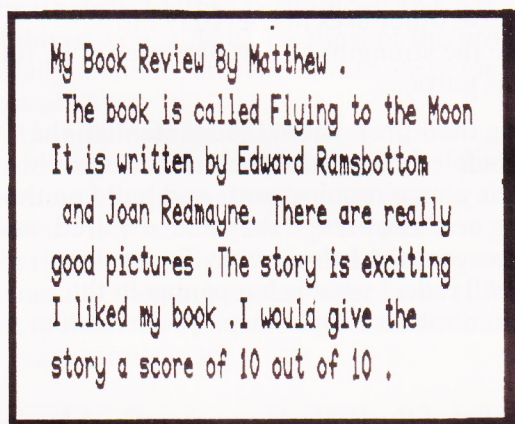


Figure 6

In order to introduce *Prompt/Writer* and the concept keyboard, the children were asked to write book reviews using overlays of varying difficulties made by the teacher. The concept keyboard was also used with the Proteus Scenario program *Fantasy That*. The children created their own picture, then added to it and altered it to suit their purposes, printed out the scene, and then used it as a stimulus for creative writing. They also used the scenarios *Our School* and *Elmtree Farm*, making decisions and predictions about the outcomes.

*PenDown* in conjunction with the *Font Editor* grid on the Toolbox disc provided a vehicle for drawing pictures to create borders for stories and, using the *Signwriter* facility for printing out banners, which were then folded to create books. The most successful of these was the picture of a house which, when printed out as a banner, formed a street with a story written about the occupants. Different fonts on

*PenDown* were chosen for writing, and with the graphics provided a focus for organising ideas and arranging the title page.

In this topic the class covered three of the IT strands, namely Communication, Handling Information and Modelling. For modelling in Key Stage 1 the National Curriculum states that 'early awareness of computer modelling can be acquired through the use of simple adventure programs where the pupils' objectives are clearly defined'. This was clearly shown in the way the *Scenario* programs were used.

*Capability Strands covered*

Communication  
Handling Information  
Applications and Effect

**School 4 (Air):** Using IT was important for this topic from the first, as a datafile was set up to record each day's weather. The fields had been decided by the class, and the program *First Facts* was used. The fields included the type of weather, types of clouds, and the condition of the playground. The data was entered into the file for a month and then sorted, searched and interrogated to answer questions such as 'which day was the wettest?' and 'what colour was the sky on cold days?'

Kites were designed using *Picture Builder* from the *Design Words and Images* package (Figure 7). From these designs the children selected the materials needed to make kites for themselves and were able to refer to their designs to ensure accuracy. A concept keyboard overlay in conjunction with *Prompt/Writer* was used to enable the children quickly and accurately to record the results of the breathing experiments, when comparisons were recorded before and after exercise. *Prompt/Writer* was also used for creative writing, e.g. magic bubble stories.

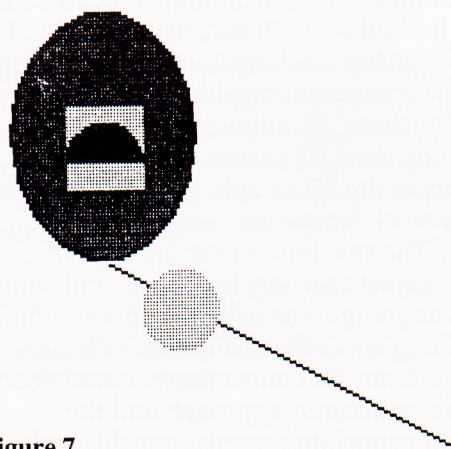


Figure 7

My name lorna  
 I used the computer to design a kite  
 The colours I chose were red blue  
 yellow I am pleased wiv it  
 I printed out the design of the kite  
 leanne helped me we worked together  
 The shape of my kite is a oval  
 Here is the kite I designed



**Figure 8**

For this class the strands of IT covered were Communication and Information Handling.

The software used by the schools hardly varied as it was thought that a small number of quality open-ended programs which could be linked with most topics was what was needed. To give the children re-inforcement by using the programs for a different purpose reflected the desires of all four teachers, and they were all most happy with the programs used.

#### *Capability Strands covered*

Communication  
 Handling Information  
 Applications and Effect

#### *The SATs implications*

During the term of this project the optional teacher materials for the SATs were released, and at the evaluation stage of this project the IT tasks were looked at, with surprising results. It was shown that the teachers had been preparing the children for assessment without being aware of it. The Teachers' Handbook states that the teachers doing the SATs trials had found that the Activities in the SATs either led into or came out of topic work from other areas of the curriculum. The revelation that the kind of results the project teachers had been achieving was what was going to be asked of them in the national testing was immensely rewarding and satisfying to them. Of course there would need to be a more structured approach and the keeping of appropriate records, but this had

been an important introduction. Also three of the teachers realised that they had unknowingly been integrating the IT tasks with those assigned for Design and Technology. Both are brought into play when the computer is used to produce a design, to save it, to amend it, to print it out, and to use it as the basis of a model.

The Sorting Objects SAT was covered by the three teachers who were involved in collecting information which they wished to 'handle'. Two of them used a database for sorting, retrieving, and interrogating for no other reason than it was the most effective method. In doing so they realised the power of the computer.

The Assessment guidelines ask teachers to consider whether a child can:

- understand what needs to be achieved
- identify what equipment/software is suitable for the task
- use the equipment/software competently
- perceive other uses in everyday life
- judge the strengths and weaknesses of IT for this purpose.

Using their professional judgement all the teachers felt that most of their children could fulfill the above requirements and build on the exciting new knowledge they had acquired, and that next year the Information Technology SATs will reflect what is happening in the classroom within a topic-inspired curriculum.

#### **Evaluation of the Projects**

*(in the words of the Teachers)*

**School 1:** The children learned to recognize difficult words and to learn their meanings. Every child was eager to use the computer, and some became confident and knowledgeable about the techniques involved. A simple database could have been used. The parents were invited for an evening workshop and the children were the tutors, which was impressive. I personally learned a great deal and am more confident to use a variety of programs in the future.

**School 2:** The work done by the children exceeded expectations and even the most reserved child excelled. We have consolidated the design skills during a class visit to the IT Centre by designing Easter cards and using *PenDown* to write the greeting.

The class was highly motivated, and reading and writing skills improved. The project increased confidence in using computers and illustrated their value in the classroom for

[illegible]

# Building lighthouses

**Chris Taylor**

*School of Education, University of Exeter*

The children of Year 4 and 5 Junior class were going on a field trip to Start Bay Field Centre, and the term's project was going to focus on this. One aspect of the trip was to see Start Point Lighthouse, a major local landmark, but now automated so it is no longer manned. I was hoping to do some 'recent and relevant'; a scheme dreamed up so that hoary old lecturers such as myself could be updated on the realities of classroom life post National Curriculum. I was hoping to do some work with the class which involved both IT and Design Technology, as I am involved in teaching both subjects to students on initial teacher training courses, so the answer was simple – to get the children to design and construct lighthouses as part of their project, and then to automate them.

I had recently purchased a Deltronics box, 'Coco', a piece of control software for the A3000, and the NCET Primary Control Technology Pack, so armed with some ideas from these, I set forth. It was a number of years since I had undertaken any construction work with primary age pupils and I was filled with trepidation. My first discovery of joy was the hot glue gun. The most technically advanced glue I had ever had the chance to use in school was PVA! The trolley of junk modelling materials was raided and construction commenced. Fairy Liquid, Vim and orange juice containers were all pressed into service. The children informed me that they did not think they were allowed to use the hot glue gun, even though it was of the low temperature variety, so I stood by and did the necessary sticking for them. For once, there was a glue that set and actually worked on almost any material – card, wood, plastic – it just did not seem to matter so long as it was clean and dry, and what was more impressive, once dry the glue held!

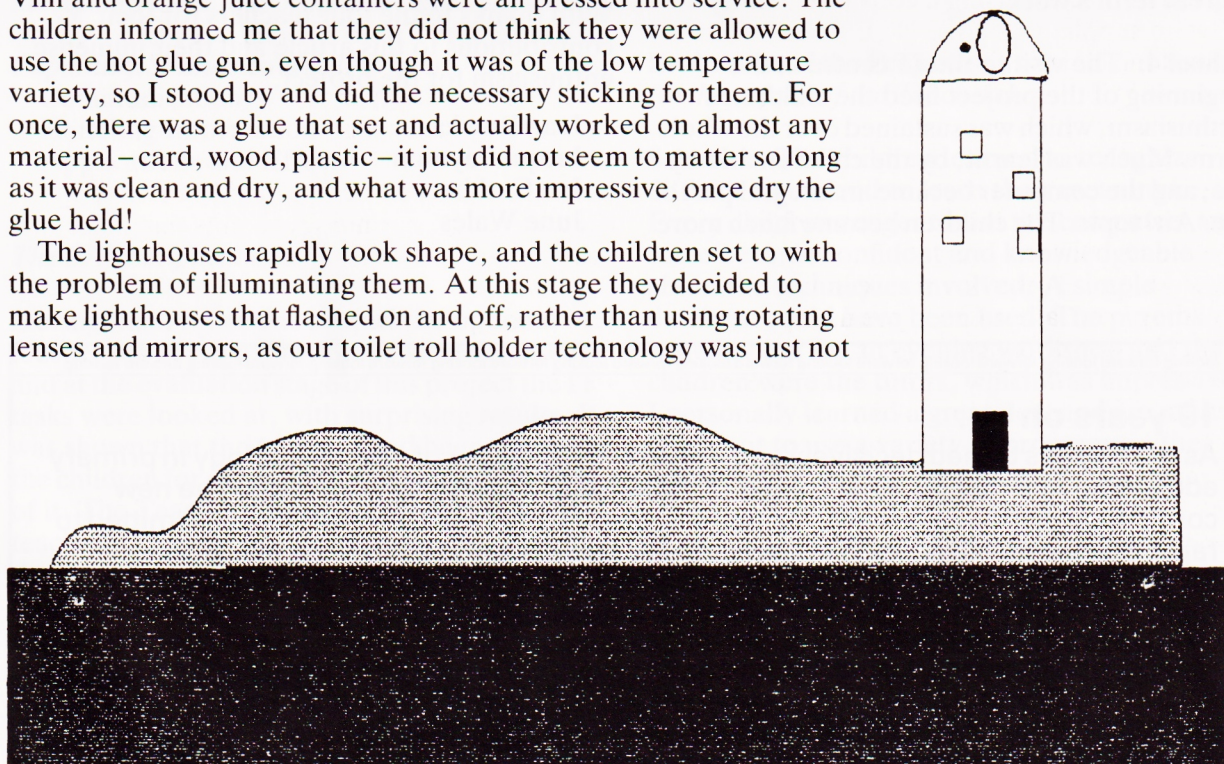
The lighthouses rapidly took shape, and the children set to with the problem of illuminating them. At this stage they decided to make lighthouses that flashed on and off, rather than using rotating lenses and mirrors, as our toilet roll holder technology was just not



The lighthouse helps fishermen in stormy seas.

The light tells the fishermen that there are rocks nearby so that the ships do not crash into the rocks.

by Robin



**Figures 1 and 2** *The children's pictures on this page were created with Draw – loaded into Phases to add text.*

up to making lenses or mirrors rotate around an illuminated bulb. In order to make the bulb flash, switches had to be constructed. A number of designs appeared involving the use of paper fasteners or drawing pins and paper clips; some were press switches, some were turn switches. The lateral thinking group went for an alternative technology approach which consisted of touching the wire against one contact of the battery, a solution that was quick, cheap and totally reliable.

One aspect of this work I had not appreciated was the difficulty the children would find in attaching the wires to the bulb holders – little fingers just do not find thin wires and screwdrivers easy to manage; even twisting a wire tightly around an electrical contact is difficult for them.

At this stage I suggested to the children that the computer could enable them to automate their lighthouses, just like the real thing. I had previously introduced them to the concept of computer control with Roamer, and they seemed able to understand that Roamer contained some kind of computer. They had asked about whether it was possible to connect Roamer to the computer, and so I had explained that it was possible but not really necessary.

Then I found a problem in that the A3000 did not have a user port, so use of 'Coco' was out of the question; instead the BBC Computer was pressed into action using a copy of *Contact*, the software supplied with the NCET pack. I showed the children how lights could be connected via the Deltronics control box, and how the *Contact* commands 'SWITCHON' and 'SWITCHOFF' could make them flash. Unfortunately the flashes were really brief, so it was then necessary to learn the command 'WAIT'.

(Note for Nimbus users: the Deltronics box will work equally well on your computers providing you have a BBC type user port, the correct lead and some suitable software – *Nimbus Controller*. This is not quite so easy for owners of Apple Macs or non RM IBM compatibles, although I have been assured that *Logicator* from Economatics is available for PC, Mac and A3000 and will do this job.)

With a little practice and experimentation the children were able to make their lights flash happily, so I was able to show them how to use the REPEAT – END commands (these children had no previous experience in using Logo, other than with Roamer). Having made their lighthouses flash, one group asked if they could connect a number of lighthouses at once. I then proceeded to tell them about the lighthouses on the Isles of Scilly, where there are three separate

lights that all flash at different rates so that identification is easy. The children set to and within minutes, to my amazement, had completed the task.

The next stage of the project was to automate the system completely so the light only flashed when it was dark! I showed them a light sensor and explained about the INPUTON? and INPUTOFF? commands. This was a little more complicated; for a start the inputs on the box were on all the time, so I had to rummage in the manual until I found the command INVERT to turn all the inputs off. It was then necessary to build the INPUTOFF? commands into a REPEAT loop as the computer only looks at an input for a fraction of a second. This procedure was then used to call the flashing procedure for the lighthouses. The last problem was not so easily solved, and consisted of adding an INPUTON? command to the sequence so that the light was turned off when it became light again. And there it was at last, a working system. When it became dark the lights flashed, but when it became light they switched off. Not the most elegant example of programming, but their ability to amend showed that the children understood much of what was going on.

Following this success, future projects I'm hoping to get them working on include a pelican crossing for outside the school, and a burglar alarm to prevent their computer from being stolen. The main messages I got from this project are that Control Technology is easy, it is cheap once you have a control box, it is an excellent use for the more venerable BBC computers, it can be great fun (if that's still allowed in schools), and it offers a wide range of curriculum possibilities beyond IT, including science, design technology, maths, language and humanities.

*My thanks go to Chris Robinson and the Year 5 children of Dartington Primary School for their hospitality.*

## Sources

NCET Primary Control Technology Pack, *Contact* and *Nimbus Controller* from NCET, Milburn Hill Road, Science Park, Coventry CV4 7JJ.

Coco Control software for the Acorn Archimedes range of computers from Commotion, Redburn House, Stockingswater Lane, Enfield EN3 7TD.

Deltronics Control It boxes from Deltronics Ltd, Church Road Industrial Estate, Gorslas, Llanelli, Dyfed SA14 7NF.

*Logicator* from Economatics, Epic House, Darnall Road, Attercliffe, Sheffield S9 5AA.

### 1. A procedure to make the lighthouse flash:

```

SWITCHON 1
WAIT 5
SWITCHOFF 1
WAIT 6
SWITCHON 1
WAIT 5
SWITCHOFF 1
WAIT 6
SWITCHON 1
WAIT 5
SWITCHOFF 1

```

### 2. A procedure to repeat the flashing sequence 10 times:

```

REPEAT 10
LIGHT
END

```

### 3. A procedure to switch on 2 lights together:

```

REPEAT 10
SWITCHON 1 2
WAIT 5
SWITCHOFF 1 2
WAIT 20
END

```

### 4. A procedure to switch on 3 lights for different lengths of time:

```

REPEAT 4
SWITCHON 3
WAIT 20
SWITCHON 2
WAIT 10
SWITCHOFF 3 2
SWITCHON 1
WAIT 30
SWITCHOFF 1
SWITCHON 2
WAIT 10
SWITCHOFF 2
END

```

### 5. A procedure to switch the lights on after dark (with procedure 6):

```

REPEAT 500
IF INPUTOFF? 1[GIRLS]
END

```

Ray McTaggart

## PRINGLES LIGHT HOUSE

How = made my light house First of all me and Susan had to find a box it was a crisp tube then we found an old

Ice cream box we stuck the crisp tube on to the ice cream box we then got a plastic cup ready to put on top of the crisp tube. We got a bulb holder and a bulb then made one of the wires longer cause it wasn't long enough. We got a battery holder and 2 batteries then we soldered the battery holder to the crisp tube. The wires went down the side of the crisp tube. We soldered one of the wires to the top of the battery and tied one round the other battery.

So when we started it to work the problem was stuck to the battery. That's how we made our light house work and now we made it.

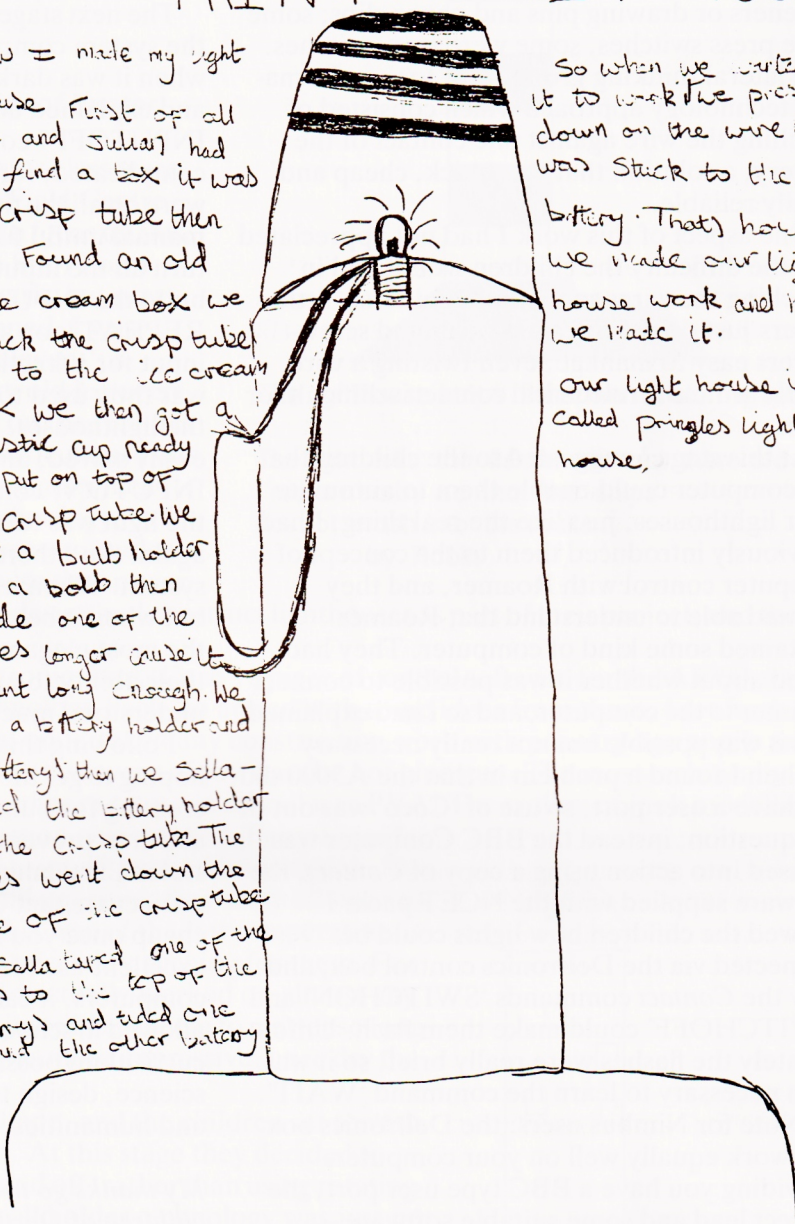
our light house is called pringles light house.

### 6. A procedure (with procedure 5) to switch the lights off in daylight:

```

REPEAT 20
SWITCHON 1
SWITCHON 2
WAIT 10
SWITCHOFF 2
SWITCHOFF 1
SWITCHON 3
WAIT 15
SWITCHOFF 3
IF INPUTON? 1[STOP]
END

```



# MAPE matters

## MICRO-SCOPE matters

### Stop Press!

Just over a year ago, after visiting the BETT Show, I began the *Focus on Multimedia* section (*MICRO-SCOPE* 39) and said that we would be publishing a Special about *Multimedia in Primary Schools* in April 1994. Since then, the enthusiasm of MAPE members, individual teachers and schools, LEAs, educational hardware manufacturers and some of our leading British software houses has played a significant role in the development of more resources suitable for primary schools.

We now have the opportunity to evaluate these on a wider scale. On Friday 11th February, the Minister for Education announced an initiative to equip a substantial number of primary schools in England with CD ROM computer systems and CD ROM discs. Each LEA has been allocated an amount of money and a sum is also available for grant-maintained schools; it is expected that approximately 2000 schools will benefit from the scheme. The sum is to be spent on equipment in this financial year and will be 100 per cent funded by the DfE. The

scheme will be managed by the National Council for Educational Technology (NCET) who will purchase equipment and discs on behalf of the authorities and deliver these directly to the schools.

At the time of writing we do not know what discs will be included, but expect that there will be ones suitable for children aged six upwards. We hope that the impetus given by the scheme will result in competitive prices being offered on both hardware and software to all schools, thus enabling those not nominated initially to buy suitable resources at reasonable prices.

I am happy to report that an additional valuable resource will be available FREE to MAPE members! The *Multimedia Special* is now in the final states of preparation and, barring unforeseen circumstances, should be with you by the end of April.

As always, I am interested in hearing from members about any aspect of IT in their schools, but in particular, look forward in the next year to hearing from those of you using CD ROM for the first time.

Chris Robson

## MAPE Software Special

If you have not returned the postcard which was included with the Autumn Term edition of *MICRO-SCOPE*, you will not be sent the Software Special. The postcard included details of the software and the availability of different versions and was the opportunity for each member to select according to his/her preferences. If you have not returned your postcard but have retained it, please send it in as soon as possible. If you have mislaid the postcard and wish to apply for the Software Special, please

write to Mrs V Siviter, Cilgeraint Farm, St Annes, Nr Bethesda, Gwynedd LL57 4AX and she will send you another postcard.

In order to obtain the software, once you have completed your postcard, please send it with a cheque for £5.00 made payable to MAPE (to cover extra administrative and postage costs) to Mrs Siviter.

The information from returned postcards has been recorded. If you have returned your postcard you will not be sent a second one!

## Chairperson's News

It's that time of year again (Christmas) when we are all looking forward to the next MAPE Conference. This will be held in Nottingham, from 25–27 March. If you haven't booked yet, or you would like more details, please get in touch with MAPE Conference '94, College House Junior School, Cator Lane, Chilwell, Nottingham NG9 4BB. It's bound to be an interesting event and I look forward to meeting friends old and new.

*The MAPE Clip Art Collection* (Archimedes only) took longer than we anticipated to collate and prepare for distribution. Thank you to all those patient would-be customers who sent their cheques and waited rather longer than we anticipated. However, having received the goods I'm sure you will agree that it is the most tremendous value for money and well worth the wait. For those who haven't bought it yet, *The MAPE Clip Art Collection* consists of three discs and associated documentation and sells at the incredible bargain price of £6.00 (including p&p and VAT). Send your orders to Yvonne Peers, MAPE Software, Newman College, Bartley Green, B32 3NT.

1993 was rather a lean year for MAPE members; we had planned to provide more support materials but, due to a range of changes in circumstances (many beyond our control) we weren't able to meet our targets. However, 1994 is going to be a much better year for you. The *Software Special* will be mailed to members, who have registered their request, at the end of the Spring Term. We are currently working on a

wealth of ideas to support the software (*Picture Builder, NewsBulletin*) so the resources look like being particularly valuable. You received a postcard with the Autumn Term '93 edition of *MICRO-SCOPE* asking you to state which program you wanted. It is vital that this is returned; software will only be mailed to those who have responded. Please see the details for applying in the *MAPE Software Special* section of this issue's MAPE matters.

We are hoping to send an updated version of the *Concept Keyboard Special* to members during 1994. The first version was extremely successful and we know that many more teachers are using overlay keyboards now, so this will be a useful resource. We are also investigating offering membership to students; whatever we produce to help them integrate Information Technology into their teaching is likely to be of use to teachers as well. We are working on a *Multimedia Special* (printed on paper) which will review the current multimedia and education scene.

MAPE is a professional organisation with three paid administrative officers (only one of whom is the equivalent of full-time). Membership and software sales are supported by these staff. Everything else depends on voluntary labour. MAPE has an extremely dedicated team of volunteers who give very generously of their time and skills. I would like to record my thanks to everyone who supports MAPE and to ask you, our members, to continue to support us so we can continue to support you!

## MAPE Working Groups

### You're a member of MAPE – please join in

MAPE is hoping to involve more members in actively supporting MAPE and, thus, one another. With this aim in mind, during the past two years we have been in the process of reorganising the way in which we work. The new structure involves five working groups: Conference, Innovations and Projects, Profile, Publications, and Regional Development. Each group has constructed its own development plan and

manages the associated finance resources which devolve from MAPE National. MAPE's executive committee meets to liaise between the groups and to manage overall development.

We need volunteers to become more actively involved in the work of MAPE. The level of participation can vary over time and can be for a specific short-term project or for longer range planning and development.

Members from each of the working groups have written about their group. Please read what

they have written and complete the 'volunteer' form and return it by May 1st. Completing the form shows that you are interested in finding out more; it does not imply a binding commitment.

### Regional Development Group

The Regional Development Group (RDG) aims to provide a forum for Regional representatives and to support regional activities with ideas, resources and (limited) finance.

#### *Present membership:*

Ron Cromie – Northern Ireland  
 Betty Lumley – Chiltern  
 Barbara Moore – East Midlands  
 Luke McAuliffe – Eire  
 Ron Jones – Executive  
 Richard Marsh – South West  
 Theresa Mungall – Scotland  
 Sandra O'Neill – Scotland  
 Barry Wake – West Midlands  
 Elizabeth Freeman – Northern  
 Alison Galbraith – Executive

#### *Group officers:*

Convenor – Betty Lumley  
 Secretary – Alison Galbraith  
 Treasurer – to be appointed

This group hopes to have one representative from each region and will meet at least once a year in May. For those who attend Conference a time allocation will be made for the discussion of regional matters. The next two meetings will be: 1) during the Conference (25th–27th March); 2) during the Council meeting on 7th May 1994. Further meetings will be organised as the need arises and may very well involve a sub-set of the RDG.

The Regional Development Group will be represented on the National Council and will have lines of communication with the Executive Committee. From time to time a Newsletter will be produced to inform members of the group's activities.

If you would like to talk to someone before you volunteer, please ring Betty Lumley (0923 823411), otherwise please complete the slip and someone will contact you.

### Profile Group

MAPE's Profile Group aims to raise the profile of MAPE both within the organisation and with external agencies. It also aims to increase the awareness of MAPE's existence and of its wide

ranging activities, amongst its own members and within the world of education. By raising MAPE's profile we hope to recruit more members to MAPE and, thus, extend the support that we offer to teachers who are integrating Information Technology into their teaching. In the current, ever-changing environment, we feel that MAPE has a major role to play.

The current focus of the group is on creating a marketing framework which will include the introduction of total quality control within MAPE, to strengthen project management within the organisation, for example via conferences and publications, and to extend MAPE's links with other organisations.

The current membership of the group is Les Watson (Convenor), Keith Whiting (Finance Officer) and Senga Whiteman.

We are looking for volunteers who feel that they can contribute to the activities outlined above. We are especially interested in finding someone who would like to develop links between MAPE and existing, or potential, sponsors.

### Innovations and Projects Group

The Innovations and Projects Group is responsible for:

- a) overseeing major projects, such as the annual *Software Specials* and the WWF/MAPE SATCOM project (due to be released in the Summer term);
- b) surveying new technologies and assessing their potential to education.

We are looking to expand the group and seeking volunteers to join us. In particular you need an interest in helping to develop teaching resources and/or an interest in surveying leading edge technologies. The group meets once per term on a Saturday, usually somewhere in the Midlands. Enthusiasm is more important than expertise.

If you want to be involved and can find a little time to help develop the services that MAPE can offer to members, please complete and return the slip below.

Current members of the group are: Roger Keeling, Mick Harwood, Yvette Blake, John Raybould, Bill Urwin, Dave Siviter, Chris Britten, Chris Hurrell.

### Publications Group

Since its inception, MAPE has provided all its printed and software publications free to all members. In order to respond effectively to the

rapidly widening range of hardware and software available to schools, the Publications group would like to broaden the scope of MAPE publications. The termly *MICRO-SCOPE*, Specials and Software Specials will still be sent free to all members, but in addition, we shall be producing other priced materials, perhaps hardware or software specific, which will be available on request.

Our first venture in this field was the *Archimedes Clip Art Special* (still available from MAPE Software for £6.00) and has been well-received by those who have purchased it. The Publications Group is interested to know what other publications you would like us to consider in the future. At the same time, we do not want to re-invent the wheel! We are aware that there are many other individuals, independent groups and LEAs who produce good quality in-house publications (for example, simplified hardware and software guides, suggestions for curriculum applications etc)

which other members would find useful. As a service to members, we would like to compile a list of such publications; on the back cover of this issue is a form which we invite you to photocopy, complete and return. It asks for titles and brief details of 'locally-produced' publications which you have either been involved in preparing, or have found particularly useful; we would also like your suggestions about future priced publications.

Group membership is currently Chris Robson (Convenor), Chris Robinson (secretary), Anne Farr, Janice Staines, Peter Twining and Trevor Wright. Our intention is to co-opt additional members to carry out particular projects; if you have a particular publishing project which you think would be of interest to a section of the MAPE membership and would like to find out more about how you could discuss this with the Publications Group, please complete the slip at the end of this article.

Don't spend your weekends in the supermarket, or slaving over a hot microwave; join a MAPE working group. Meet interesting people who care about education and participate in a range of activities which will support your work in school or other areas of education and bring benefits to yourself and to MAPE's members. Go for it!

*Senga Whiteman, MAPE Chairperson*

Name .....

Address .....

Telephone Number .....

I am interested in finding out more about the ..... MAPE Working Group

Please return this slip to Senga Whiteman, Newman College, Bartley Green, Birmingham B32 3NT, by 1st May 1994.

## **!! REVIEWERS AND WRITERS NEEDED !!**

As you know, the content of *MICRO-SCOPE* is reliant on volunteer contributions. Despite my efforts to represent all hardware platforms in articles and reviews, the majority of contributions I receive are still from Acorn users. If you are one of the large number of people who use RM machines, other PCs, Apple or indeed any other computer in school,

### **PLEASE STEP FORWARD!!**

I would love to hear from you and broaden the range of material I can offer in *MICRO-SCOPE*.

It may be possible to obtain review copies of software for you to evaluate for us, so if you're interested, do please contact me.

I look forward to hearing from you!

*Chris Robson*

## Regional news

### Chiltern

This copy date is mid-event for us, so if you came to the Control session on 5th February, we hope you found it useful.

The next event is scheduled to be on 14th May at the usual venue – Hertfordshire University – 9.30–12.00, and is likely to be a session on how computer tasks can enhance and address the mathematics curriculum. Details will be available nearer the time. For these or any ideas, requests or suggestions, ring Betty Lumley on 0923 823411.

*Betty Lumley*

### Eire

East Cork Teachers Computer Group meet on alternate Wednesdays, starting on 12th January 1994. The Spring programme includes sessions for both beginners and advanced computer users. Eire members wishing to join computer groups should contact:

Paddy Bates, Coolderry N.S. (Laors Offaly region);  
Liam O'Brien, Limerick Teachers' Centre (Mid-West region);  
The Secretary, NITEC, Dublin City University (Dublin region);  
NAVAN Teachers' Centre or ECTCG, Scoil Clochar Mhuire, Carrigtwohill, Co Cork for any other information.

*Luke McAuliffe*

### Scotland

The annual Scottish MAPE Conference was held this year in the University of Paisley, Craigie Campus in Ayr. It achieved its normal high standard by providing for our members a wide choice of workshops and presentations covering all the platforms most commonly used in Scotland. A wide range of 5–14 curricular areas was covered and a host of ideas was provided for ways of both developing our children's IT skills and showing how developed skills can be adopted to enhance learning in the school. In total there were 16 workshops to choose from covering the latest technology from Apple, Archimedes, Nimbus, to the ever-faithful (and popular) BBC. Developments with laptops, concept keyboards and programmable toys were also featured. The software selected for the individual sessions reflected specific application in most areas such as strands and outcomes in Language, Maths

and Expressive Arts of the 5–14 curriculum with emphasis, at times, on cross-curricular issues and special needs. Judging by responses, both formal and informal, delegates thoroughly enjoyed and valued the Conference and have unanimously stated that they would like them to continue. This will pose problems for future committees as we all know that this time of recession creates difficulties in maintaining this kind of service to our members.

Once again on behalf of the Scottish Steering Committee I would like to extend many thanks to the workshop presenters for the time and effort they devoted to their preparation and delivery, the College staff for being so accommodating and to the members of the Steering Committee who deserve special thanks for their role in making this such a successful Conference. Thanks to these combined efforts there will have been many teachers who left Ayr full of enthusiasm and new ideas to try with their children.

The new committee which convened in January intends to continue to promote and support the extensive MAPE activities regularly occurring in areas all over Scotland but has aims to target certain areas in need of development. Successful outcomes would ensure that members in these parts of Scotland would gain maximum benefit from their MAPE membership.

We intend to keep IT up!

*Theresa Mungall*

### Southern

The Dorset group have organised a session entitled 'Art on the Archimedes', to include *Flare* and *Fades*; *Artisan* and *Revelation*, plus a computer surgery, on Saturday 18th June, 10.00–1.00, at Malmesbury Park First School, Bournemouth. If any groups in the rest of the Southern area would like help (financial or otherwise) to set up meetings in their area, please contact me.

*John Bennett*

### South West

At the AGM in September, members enjoyed a very interesting session looking at laptop computers and CD ROMs (in particular Mammals – they all want one now!) (See *MICRO-SCOPE* Matters for more about CD ROM in Primary Schools! – Ed.) There have been three school-based in-service meetings, in Brixham, Dartington and Exeter which were well attended and received with enthusiasm and interest.

A session looking at the still video camera and digitising pictures was held at Stoke Hill First School in Exeter – our thanks to the head for the use of her school. Two meetings in Cornwall, looking at laptop computers, were more sparsely attended. Three meetings early in the Spring term looked at Multimedia, Talking *PenDown*, and Dealing with Hard Discs. Two full-day courses are planned for March: Music and IT, and IT for Beginners. Anyone interested in these and future events should contact me at the School of Education, on 0392 264089.

The extra demands being placed on teachers have led to a drop in attendance at MAPE meetings – teachers simply do not have time left for after-school events. However, MAPE South West can arrange school-based sessions; please contact me if you would like to discuss a MAPE session as part of a staff meeting or training day.

Although I shall still be involved in organising and running events locally, I have handed over the mantle of Regional Rep to Richard Marsh, 2 Pellew Place, Stoke, Plymouth PL2 1EQ. Best wishes Richard!

*Chris Taylor*

## West Midlands

### Forthcoming event:

Saturday morning session, 14th May: 'Maths with a Micro'; details or prices and application forms from Mick Harwood (address inside the back cover).

### LogoS news

Richard Noss, Celia Hoyles, Mike Doyle and Chris Robinson presented papers at EUROLOGO '93 in Athens in August. This bi-annual conference was attended by some 160 delegates.

LogoS will be hosting the next EUROLOGO Conference in Birmingham immediately prior to the World Conference for Computers in Education. Details of LogoS from Chris Robinson (address inside the back cover).

### World Conference Computers in Education 95

The Sixth World Conference Computers in Education will be held in Birmingham from 23rd–28th July 1995. For further details, contact WCCE 95, Margaret Street, Birmingham B3 3BW, UK.

# MAPE software

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

### *The MAPE Compendium*

Micro: BBC, RM480Z, RM Nimbus

Cost: £10 new members; £15 non-members; £6 Nimbus

### *MAPE 4*

Micro: BBC, RM480Z

Cost: £8.50 new members; £12.50 non-members

### *MAPE 5 – Lost Owls*

Micro: BBC (B and Master), RM480Z, RM Nimbus (Archimedes version from Newman Software)

Cost: £9.50 new members; £15 non-members  
Discussion and problem solving for very young children. Concept keyboard can be used.

### *MAPE 6 – Stylus*

Micro: BBC (B and Master), RM Nimbus

Cost: £9.50 new members; £15 non-members  
*Stylus*, (updated *Concept Writer*) and *The Orb of Zalibar* adventure game. (Only *The Orb of Zalibar* is available for the RM480Z.)

### *MAPE 7 – Graph-IT*

Micro- BBC (B and Master), Archimedes, RM Nimbus

Cost: £9.50 new members; £15 non-members

*Graph-IT*, a simple graphical display package and an amended version of *Wordplay*.

### *MAPE 8 – Into Europe*

Machine: BBC (B and Master), Archimedes, RM Nimbus

Cost: £9.50 new members; £15 non-members

Concept keyboard essential.

### *ESP Science Special*

Micro: BBC

Cost: £8.50 new members; £12.50 non members

Basic data-logging using a simple analogue interface.

### *Special Needs Special* (booklet)

Cost: £1

Using a computer in special needs education.

### *Technology Special* (booklet)

Cost: £1

Using the computer in technology.

### *Logo Special* (booklet)

Cost: £2

Logo in the primary curriculum; lots of ideas for teachers.

**For LEAs who bulk purchase (10 or more copies) the price is 30 per cent off the non-members price. LEA licences are also available.**

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

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

All prices quoted include VAT at 17.5 per cent.  
Postage and packing included, except on bulk purchasing.

Please make your cheque payable to MAPE.

## Software reviews

Title: **Aztecs**

Publisher: Sherston Software, Swan Barton,  
Sherston, Malmesbury, Wilts SN16 0LH  
Tel: 0666 840433

Micro: Archimedes

Price: £39.95 + VAT for a single copy, or  
site licences for £79.90 + VAT (primary)  
or £119.85 + VAT (secondary)

*Aztecs* is an historical simulation from Sherston Software which takes children back in time to Tenochtitlan, the capital of the Aztec Empire in 1519 (now modern day Mexico City). The pack consists of three discs, a Teachers' book, A3 and A5 colour charts of Aztec counting symbols, a colour A5 chart of Aztec calendar symbols, two A4 maps of Tenochtitlan (one coloured, one black and white for photocopying), an A5 glossary chart, nine Aztec 'Challenges' also on A5 card, and finally an A3 colour poster of an Aztec warrior. The program can be used at three levels: just as an animated story with no challenges or problems, or with the problems and challenges at two different levels.

*Aztecs* runs from the icon bar, taking over the desktop when running. From the icon bar the Setup panel can be accessed, allowing teachers to save the current position, adjust the volume, set the level of difficulty of tasks (or even switch them off), change the level of language, the starting point for the adventure, and the screen mode to suit the type of monitor being used. There is also a facility for hard disc users to change the directory where screens are saved.

After a loading screen, the program begins with two children (a boy and a girl) visiting their Aunt and Uncle in Bermuda. Their uncle, an eccentric scientist, takes them on a helicopter trip with Mexico City as its destination. But, while flying over the Bermuda Triangle they are caught up in a time warp and sent back in time to Tenochtitlan. Once there they are quickly caught up in trying to help prove that an innocent man did not steal Montezuma's valuable turquoise mask.

To do this they have to explore the city, and as they do they are given various tasks, all of which relate directly to Aztec culture. Thus they learn about the Aztec calendar, Aztec food, Aztec base 20 counting symbols (and they have to use these later for bartering) and picture writing. They also learn the difference between rich and poor Aztecs, how the Aztecs reclaimed farming land from the lake, about Aztec schools and

Aztec games, about time, money and counting, Aztec religion, etc.

Linked with the program are nine challenge cards, covering art and craft activities, language skills and logical thinking. These are well thought out and can be used by individual pupils, a small group or a whole class. The teacher's book gives a comprehensive and well-written guide to the program, and includes a glossary and further suggestions for work. The ability to print screens or to save them to disc for use in other programs rounds off an excellent program which I can recommend to anyone with an Archimedes and the need or desire to teach about the Aztecs.

Doug Weller

Langley Junior and Infant School, Solihull

### **Junior Chat – Electronic Mail for Junior Schools**

*Junior Chat* is a low-cost way of allowing children aged 8–12 to communicate via computer and BT/Mercury phone lines. The software is free for Archimedes and PC compatible computers, and with LMS many, if not most, primary schools have a modem. Although at the time of writing it is available only by phoning the StarNet bulletin board in Norwich, by the time you read this it should be available to almost all schools for a local call to any bulletin box hooked onto FidoNet, a worldwide, non-commercial communications network. The next issue of *MICRO-SCOPE* will have an article describing its use by Doug Weller, a Year 6 teacher in Solihull, and Stephen Booth, A Year 5 teacher in Codnor, Derbyshire. Their children are now exchanging messages (and soon photos and Christmas cards) all down the telephone line! All the work is prepared offline and then despatched at a later time so as to keep costs to a minimum. Stephen sends and receives the messages from school; Doug takes them home and sends them.

*Junior Chat* is part of a group of message areas on SchoolNet, which was set up by Paul Welbank in Norwich to provide an inexpensive means of inter-school communications via computer and modem. We would like to encourage other schools to take part; for further information, contact Stephen Booth, 37 Fox Road, Castle Donington, Derby DE74 2UN, tel: 0332 853784, or Doug Weller, 60 Warwick Road, Solihull B92 7JJ, tel: 021-708-1254.

Title: **Landmarks: Tudors and Stuarts; Elizabeth I and The Civil War**

Publisher: Longman Logotron, 124 Cambridge Science Park, Milton Road, Cambridge CB4 4ZS. Tel: 0223 425558

Micro: Archimedes, Nimbus, IBM VGA

Price: £24.00 + VAT

These are two more in Logotron's *Landmarks* series, available for the Archimedes and in RM Nimbus and IBM VGA formats. Although designed to complement the BBC programme of the same title, the software is completely independent of the TV programmes.

They follow the model of the earlier programs in which pupils have an interactive conversation with a child living in the past (or in one program, in a rain forest). There is a text window and a window with pictures. When the program is first loaded the 'host' asks for the children's names, and then tries to carry on a 'normal' conversation with whoever is at the keyboard. The manual suggests that one can see the keyboard as a 'keyboard telepathic link' between the schoolchild and the mind of one living in the world maintained by the software.

These are not adventure games; there is no plot, no goal for the children other than to explore and learn. Things happen; an intriguing element of this series is that each consists of three real time days of events; children leave the computer and come back and events have carried on in the *Landmarks* world. Log on on the fourth day and your host tells you goodbye!

The host for *Elizabeth I* is a 12-year-old girl, Betsy, who works as a housemaid in the manor house of Suttin D'Evercy at a time when the Queen is to visit the house. Children can explore the great house and its gardens, visiting over 40 locations and finding 100 objects. They can ask about things they see; for instance, when Betsy goes to the kitchen and says she can see the cook, you can ask 'What is the cook doing?' (Unfortunately perhaps, you can only ask about things when they can be seen.)

The host in *The Civil War* is a young boy living on a farm near the village of Langport in Somerset, in July 1645. During the three days a battle takes place nearby (if the children don't use the computer the day after they first use it, they miss it!). Children can visit and explore most parts of the village: John's house, the pub, the soldiers' camp, the boatyard, market, river, abbey, etc. Again, children can ask John questions in normal English about the things John tells them about. For instance, if you ask John 'Do you have any brothers?' he tells you about his two brothers and two sisters.

Scanned pictures are also used in the program to illustrate various places, people and objects. Archimedes users may be disappointed in their quality, but I gather that as the program was written for use on IBM and RML machines as well, there is a 'lowest common denominator factor' involved.

The programs come with excellent teacher's and pupils' guides. The pupils' guides have some very useful off-computer activities.

Doug Weller

Title: **Cartooners**

Edhitec, 7 Carlton Road, Harrogate, N Yorks HG2 8DD. Tel: 0423 871027

Micro: IBM PC, RM Nimbus

Price: £24.50 + VAT single copy;  
£35.00 + VAT for a 5-user licence

My first impression was that I was not particularly impressed with the program, but on further acquaintance, I changed my mind!

It showed a nice little cartoon demonstration. I immediately wanted to create my own cartoon, but found it all a bit fiddly.

Having played with it for some time, I now know how the program works (perhaps some documentation would have helped!) and feel that I am in a position to let some children try it out at school.

That should be the acid test.

A Year 6 child, Stuart Watson, stayed in one lunchtime to see what he could make of the software. Here is his review.

I found this program hard at first but I soon got to know how to use it. Each actor has its own special feature, like a hopping bunny, a flying duck, and a moonwalking duck.

The program also sets a background scene with a windmill, a fence or a corn field. It is very funny when the dog moonwalks. The duck can be close or far away in the distance.

You can put in speech bubbles.

When the title screen comes up, wait a while and you get the option to see a demonstration which tells you how to use the program, or you can create your own cartoon.

My cartoon turned out pretty well for my first go. I enjoyed this program a lot and would give it 10 out of 10, and I expect the full program with the choice to save my fabulous cartoon will be even better.

Stuart Watson

Class 6Ha, Blakenhale Junior School

In fact Stuart did a pretty good cartoon, using multiple scenes, speech bubbles and music.

A full working version with save facilities would also have been more useful, because having created a cartoon, it was extremely disappointing for Stuart not to be able to save it and show friends at a later date, or to go back and amend.

The program seems very reasonably priced if it includes all of the ten outdoor scenes and the 40 characters and props mentioned in the flier.

The program was easy to use, and once the user is familiar with the correct terminology for cartoon and film creation, ie frames, recording, etc. then it's a nice tool for enjoyment and creativity.

*Mick Harwood, Deputy Headteacher  
Blakenhale Junior School, Birmingham*

**Title: Talking Books**

Publisher: Sherston Software, Swan Barton,  
Sherston, Malmesbury, Wilts SN16 0LH  
Tel: 0666 840433

Micro: Archimedes

Price: £9.95 + VAT for a each book, or a set of  
all six for £49.75 + VAT

Many years ago I nearly became involved with Dr Colin Terrell and his talking books. His hypothesis was that listening to children read was time consuming and this could be done by a machine. The function of the teacher was to prompt when the child was unsure of particular words. He based his talking books on the Tansley series which ensured limiting vocabulary to the most commonly used words. He also experimented with 'real' voices as well as the 'machine' voice.

These new 'books' from Sherston Software remind me that I have seen the idea before and have raised the same worries that I had about their use.

The 'books' themselves are very easy to use and attractively packaged. The package consists of a disc, some useful program notes and a copy of the book.

The user is presented with each page of the book which consists of a picture with a sentence underneath and some control buttons. The buttons allow the user to move forward or back a page at a time, to listen to the whole sentence read by a human voice or to see some animation associated with the text. In addition, the words can be pointed at and spoken individually or parts of the picture can be pointed at and, if they are animated, they will move.

There are options which allow the teacher to turn off the whole sentence read out and adjustments for volume. As the words are spoken the words change colour which is my only technical criticism of the program since one teacher I was showing it to, being red/green colour blind, was not aware of this feature. This highlighting can also be switched off. All individual words that have been clicked on by the user are automatically logged and this logfile can be saved for printing out at a later date.

It is too easy to sit in front of the screen and ask the machine to read the story. If this happens, any benefits to the reading process become questionable. Without an adult present, I don't know if a child has made a reasonable attempt at reading a word, in which case a prompt would be in order, or whether the children think they have got it right when they have not and carry on anyway.

Beware of older children using the program to practise rapping by multiple clicking on the words in random order. Good fun certainly, but to what purpose?

There are currently six titles available. The new catalogue from Sherston indicates that a further six titles will be available shortly.

*Reg Eyre*

**Title: Badger Trails**

Publisher: Sherston Software, Swan Barton,  
Sherston, Malmesbury, Wilts SN16 0LH  
Tel: 0666 840433

Micro: Archimedes

Price: £39.95

*Badger Trails* is yet another program made by Simon Hosler of Sherston Software. Again it is excellent, but perhaps it does have a few less good points.

You are a fully grown badger, faced with the task of returning to your sett. (How you lost it, I do not know!) During this you are faced with many dangers, included in sub-tasks. You must firstly find food and water before crossing the road. Here you must find a place to sleep, and so it goes on.

The graphics and the colours are bright and cartoony, but the movement of the actual badger is not very convincing. He just glides along as if on an ice-rink. Nevertheless, the close-up actions are very good. These close-up actions are the badger mainly eating and drinking.

The program has compass directions which you must click on to make the badger move.

Also, the whole time you are looking at an overhead map. If used with another program, such as a word processor to write an interesting story about a badger, this would add to its educational value. It is for the age group between eight and eleven or twelve. Children who were above this age would probably find it a little babyish, whereas children below this age would not understand it.

Its best points are the close-up actions and the story line. The actions are good because they are so realistic, especially the drinking of water. The sub-tasks by themselves are not too good, but put together they make a very good story line.

There are three bad points. Firstly, as I have mentioned, the overhead movement of the badger. Also, when you click on the compass direction west, the badger might go south and then west. When you want it to stop, it will not. To improve it, you could click, with the mouse, on the screen to where you want the badger to go. It might be a good idea to jazz up the sound. Apart from the noise of a gunshot, there is hardly anything. There are many possibilities for sound, such as running water, wind, or anything like that.

Overall, I think it is a worthwhile game which is good value for money, but has room for improvement. If you liked *The Crystal Rainforest*, then you will love this latest program from Sherston.

Adam Weymouth (aged 9)  
Northaw School



*Music Box* is an excellent program, well designed by Topologika Software. The features which distinguish it from many of the current music programs are that firstly it has excellent graphics and it has an extremely high level of presentation. Secondly, it could hardly be more user-friendly. *Music Box* is so user-friendly due to the fact that it is so visual, so that non-musicians will not be intimidated. *Music Box* shows you the instrument that you are using and there is also the Metronome, which is extremely useful. If you click the mouse on the picture of a trombone, you hear a trombone play a note (or whatever the instrument is that you have chosen).

There are many pieces of music software at the moment. For example, Longman Logotron have written another music program, *Notate*, which is almost three times as expensive as

*Music Box*, and in my opinion it is not as good. For a primary site licence, *Notate* is £190 and that does not include postage and packing or VAT, whereas *Music Box* is only £60 for a primary site licence. *!Maestro*, on the other hand, is designed for those who are reasonably accomplished in music and so the number of the users is limited. To produce the music you want, you have to choose your notes and then drop your chosen note at the right position in the stave. Overall I feel that *!Maestro* is too complicated and difficult to use, whereas *Music Box* is ten times more user-friendly and, incidentally, it has a better variety of musical instruments. Rock music fans will be pleased to learn that you can have electric guitars and plenty of drums!

*Music Box* has four main areas: the Keyboard, the Drum Kit, the Orchestra and Chords. It is easy to change the tempo and the volume, even if you are in the middle of hearing a piece. Like *Notate*, *Music Box* makes use of 'tape-recorder' buttons to 'record' and play back your musical compositions.

Children of all ages and levels of ability will enjoy this exciting musical program. When you print out a 'score' of your composition, it is fairly easy to translate this into conventional notation, with staves, clefs and so on. I am sure that *Music Box* will encourage non-musicians to take more interest in music, especially when they realise that music-making can be fun.

Ben White and William Dobbie  
Northaw School

### Control Pip

'Control' is a topic that appears to frighten many teachers – picturing a complicated mass of wires and a complicated programming language to learn.

The leap from commanding a floor or screen turtle using simple commands to controlling external devices attached to a computer is large. Often this stops short at using the computer as a complex switch to operate traffic lights (for instance) without considering inputs from sensors.

To help fill the gap, Swallow Systems have introduced an interface that attaches to their 'Pip' floor turtle. However, in a departure from others' practice, it is primarily designed for attachment of sensors, the input from which control Pip's behaviour. However, the operation of this is actually very simple with no programming language to learn.

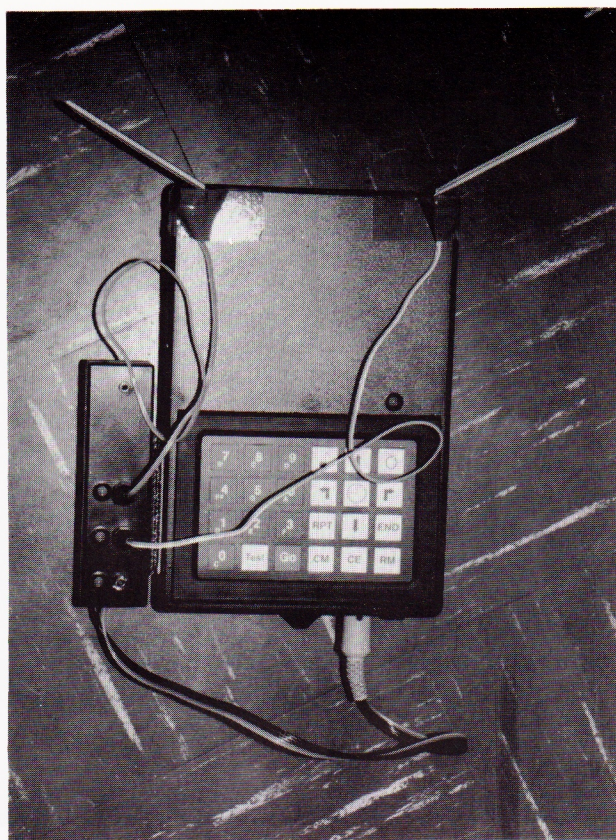
Once the interface is attached, Pip works in a

slightly different way. The control pack includes various sensors to plug into the interface. When an attached sensor is active, with a corresponding LED providing confirmation, the programming is effected by pressing the appropriate key. The following examples indicate the simplicity of this.

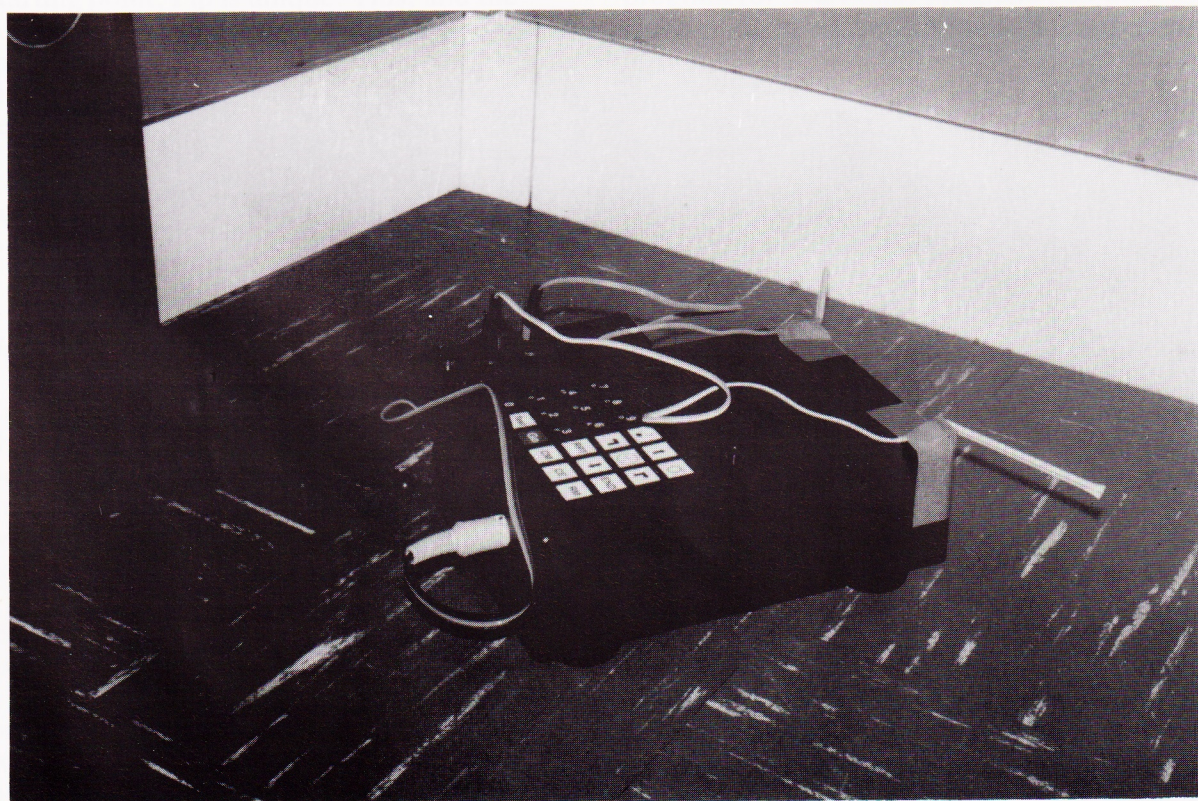
I fastened the magnet sensor ('reed switch') to Pip's front with sellotape. With no signal being received, I pressed the clock symbol to indicate 'Wait. Do nothing'. Bringing a magnet near the sensor, the LED adjacent to its socket illuminated indicating the incoming signal. I pressed the back arrow key. I had 'written' my first Pip control program. After pressing the GO key, Pip waited. When a magnet was brought close, it backed away out of range to stop and wait again.

Placing micro-switch touch sensors to the front corners (extended with the addition of drinking straws, looking like feelers on some gigantic beetle) it was easy to program Pip to explore the floor travelling straight ahead but turning away from danger each time one of its feelers responded to an obstacle.

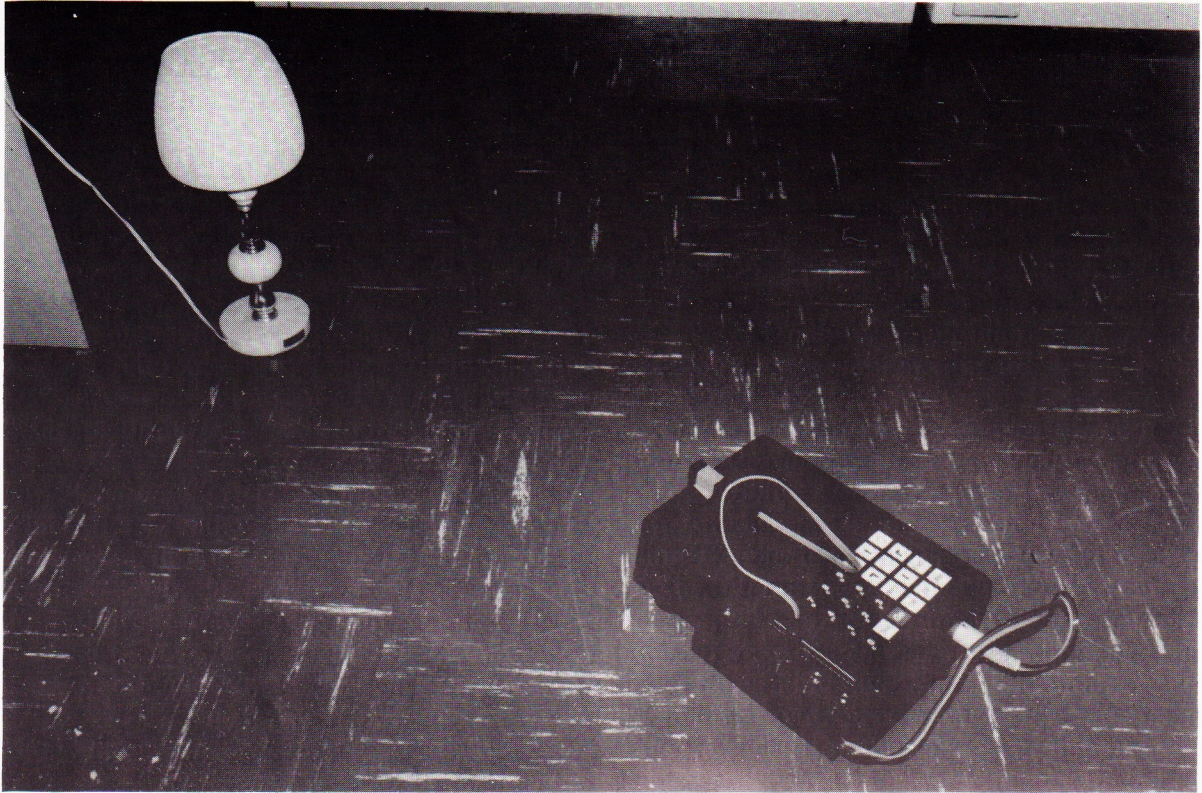
A forward-facing light sensor enabled Pip, moth like, to seek out a bright light source.



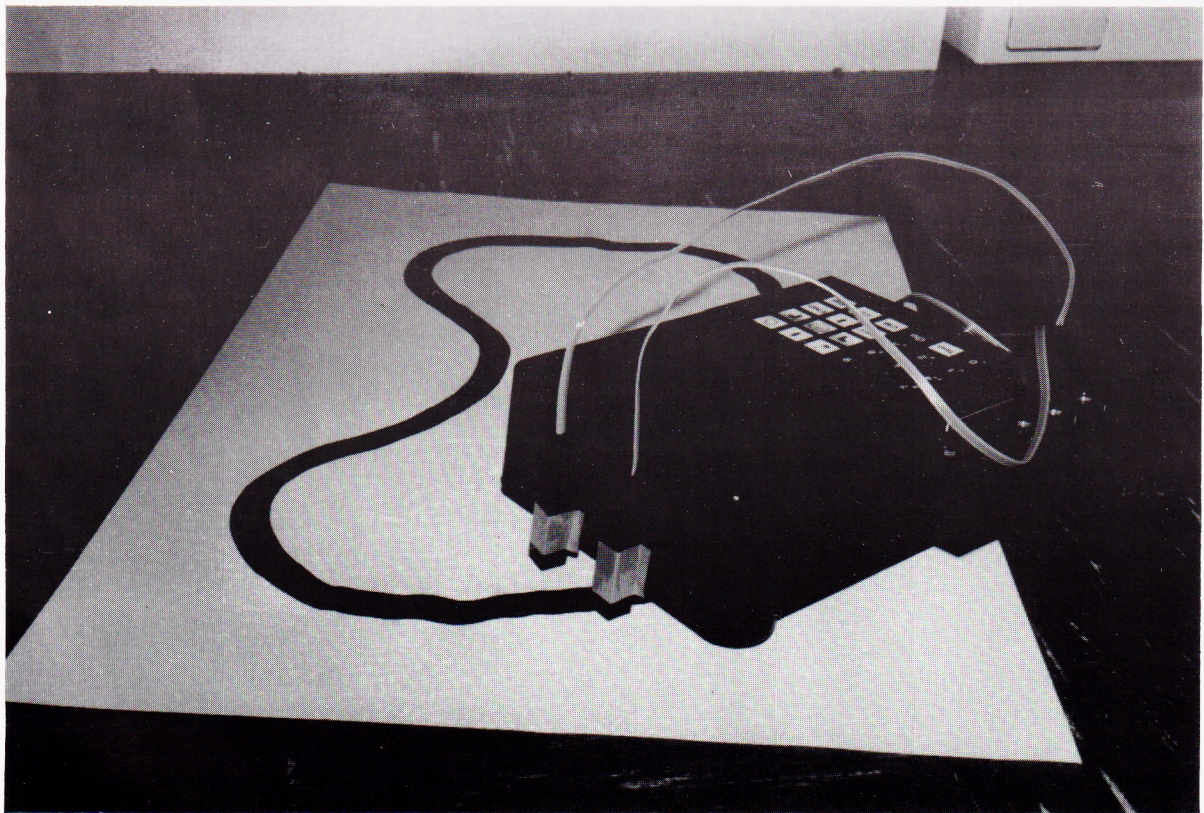
**Figure 1** *Pip fitted with drinking straw sensors.*



**Figure 2** *Pip's micro-switch touch sensors, extended with drinking straws, explore the space in front and turn away from the obstacle of a wall.*



**Figure 3** *Pip seeks out a bright lamp with his forward-facing light sensor.*



**Figure 4** *Pip can travel along the black line on a sheet of white paper using two light sensors at either side of the line and pointing forward.*

Using two light sensors pointing to a sheet of white paper bearing a broad black line, it took a little while to adjust the ambient light level to enable the difference between reflection from white paper and black line to be noted; thereafter, however, programming Pip to follow the track was comparatively swift and simple.

Control Pip has been excitingly received by children from year 4 to year 7 inclusive in my school. One group of children, using two touch sensors, soon converted Pip into a delivery system. Articles placed on a tray Pip was carrying, activated Pip to carry them to their destination whence, hitting a barrier, it stopped and flashed an indicator lamp to attract the attention of another operator to remove the load whereupon Pip automatically retreated to its original location for the next load.

The SALADE (Science Avec Logo Avec Dessin technologique Environnementale) technology club are already working on plans to use Pip, lying on his back, to drive a conveyor belt or turn a model orrery with his wheels.

Most 'control' has started by considering outputs with external sensors added later as an extra (perhaps even difficult) complication. With its concentration on sensory input as a starting point, Pip is unique. This, and the refreshingly simple programming technique, make Control Pip a very important consideration for any school wishing to develop control technology.

The Control Pip interface is available from Swallow Systems, 32 High Street, High Wycombe, Bucks HP11 2AQ. Tel. 0494 813471. Prices start from £165.00 + VAT.

### **Screen Turtle**

Since Logo is a programming language, rather than a sophisticated program, it can justifiably be described as not being 'user friendly'! Any attempt at demystifying it must thus be welcomed. *Screen Turtle* does that for the most common Logo application: turtle graphics.

Since the National Curriculum identified the rich learning environment that can be made available through the turtling facilities of Logo, a number of software houses have produced programs to meet the requirements of the standing orders. *Screen Turtle* is probably the best of those that I have seen. It brings to the Archimedes computer the turtle drawing capabilities of Logo with many additions. (It is, however, a program written in BASIC and is not actually Logo.)

The program provides a graphics window in which the traditional triangular turtle may be moved with conventional, and some unconventional, commands typed in a command window.

As each command is typed, it is checked by the program. If it is 'legal', it is ticked and executed; if it is not recognised, the program will attempt to guess and present the question, 'Do you mean . . . ?' A help screen of all 'legal' commands is also available to the user.

In order to give *Screen Turtle* a fair trial, I had to 'forget' all my previous Logo knowledge and start afresh with this program as if I were a complete beginner. For a Logo 'expert' there were many annoying quirks which would not be obvious to a 'novice': although the program was very tolerant of misprints and forgotten spaces, it would not accept any punctuation. Another personal cause of annoyance was that it would not permit 'top down' programming: in attempting to construct a super-procedure to call a sub-procedure yet to be written, it refused to accept the sub-procedure's name if it hadn't yet been defined. However, starting afresh with this program, a user would presumably be naturally bound by, and accept, these limitations without concern.

At present, the only alternatives to this program (or 'Dart-like' programs) on the Archimedes are Logotron's *Archimedes Logo* or to use a PC emulator and run *LogoWriter*. The former (being 'first generation' Logo) is unfriendly and unforgiving; the latter is friendlier ('second generation') but the added complication of first installing the emulator (unless using a hard disc and RISC OS 3.1) deters many. *Screen Turtle*, however, is easy to run and is a true RISC OS application permitting access to other RISC OS utilities such as printer drivers.

In direct mode, commands typed in the text window beneath the drawing screen, are challenged, if not recognised, or ticked and executed. Only one command at a time may be entered rather than a list as in Logo. Variables may be created using the command 'MAKE LENGTH 20' or 'MAKE LENGTH = LENGTH + 1'. There is no visual differentiation between a word that stands for a variable and a word that is a procedure name.

To create a pattern drawing procedure, typing TO HEXAGON alters the screen layout to a split screen with the title just typed to the left and a drawing window to the right of the screen. The syntax of REPEAT requires this command to be an entry line before the repeat elements are listed, thus:

```

REPEAT 6
>FD 40
>RT 60
>AGAIN

```

The chevrons are provided by the program to remind the user they are in a loop. A second nested loop produces double chevrons etc. As each command is typed, it is challenged or ticked and executed as in command mode. When AGAIN has been entered, the loop is repeated as many times as requested.

Once a procedure has been created, it can be executed by clicking with the mouse on a button labelled RUN, or STEP may be used to proceed through one command at a time with the ALT key needing to be pressed to advance it.

Clicking the mouse on a PRINT button will list the instructions to a printer attached. The SCREEN picture may be printed using PRINTSCREEN command or saved by SAVE SCREEN whence it is possible to convert it to a sprite file and import it into an alternative drawing program for printing. (I actually found the latter easier with the Hewlett Packard colour jet I was using which failed to print the correct colours directly from the program.)

There isn't room in a review of this nature to list all the extensive facilities of this graphics program but the slim A5 booklet accompanying it is clear and easy to understand. The aims of providing a platform from which to investigate turtle graphics requiring a minimum of technical knowledge has been met and non-specialist

teachers will welcome its ease of use.

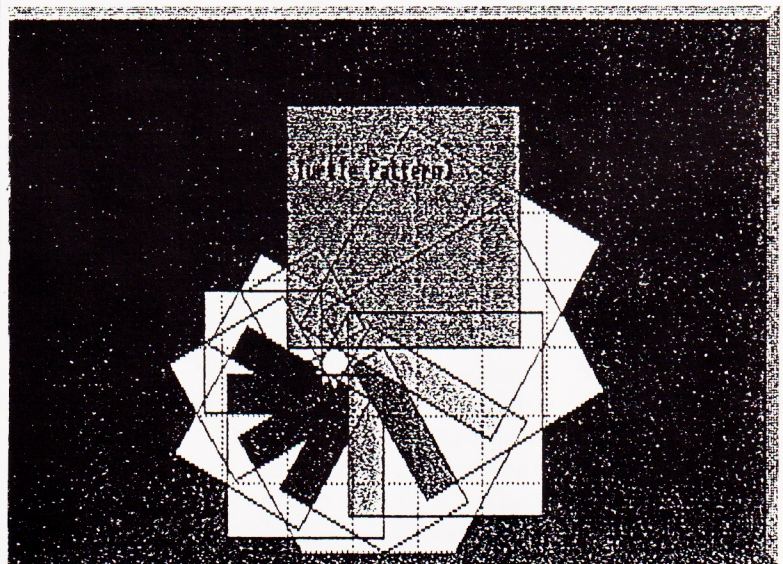
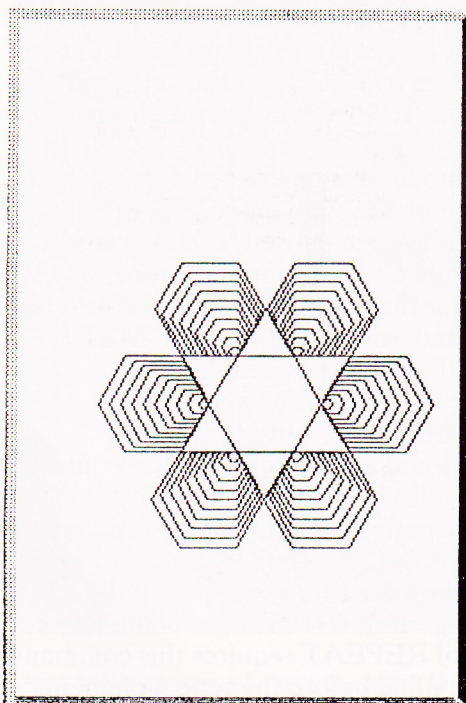
For those who have negligible Logo experience, this program provides an excellent start. It should be born in mind, however, that it is a computer program written in a language other than Logo, as opposed to being a Logo interpreter itself and cannot be used for applications other than turtle graphics. It will provide confidence for a range of tasks turtle graphics can provide but as confidence grows, so could frustration and I would hope pupils and teachers weaned on it will make a painless transition to a full Logo implementation.

If you are one of the many teachers who hasn't yet discovered the joys of Logo and at the moment feel you will only want to use turtle graphics, then you may find this program is for you. If you feel you may at some future date wish to move onto the other facilities offered by a proper interpreter, then look out for the new (third generation) Logos that will become available in 1994 but you may find this fills a gap in the interim.

*Screen Turtle* is available from Topologika, PO box 39, Stilton, Cambs PE7 3RL. Tel. 0733 244682. Price (Archimedes): £35.00.

The views expressed in this review are those of the author and are not necessarily those of LogoS (Logo User Group).

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