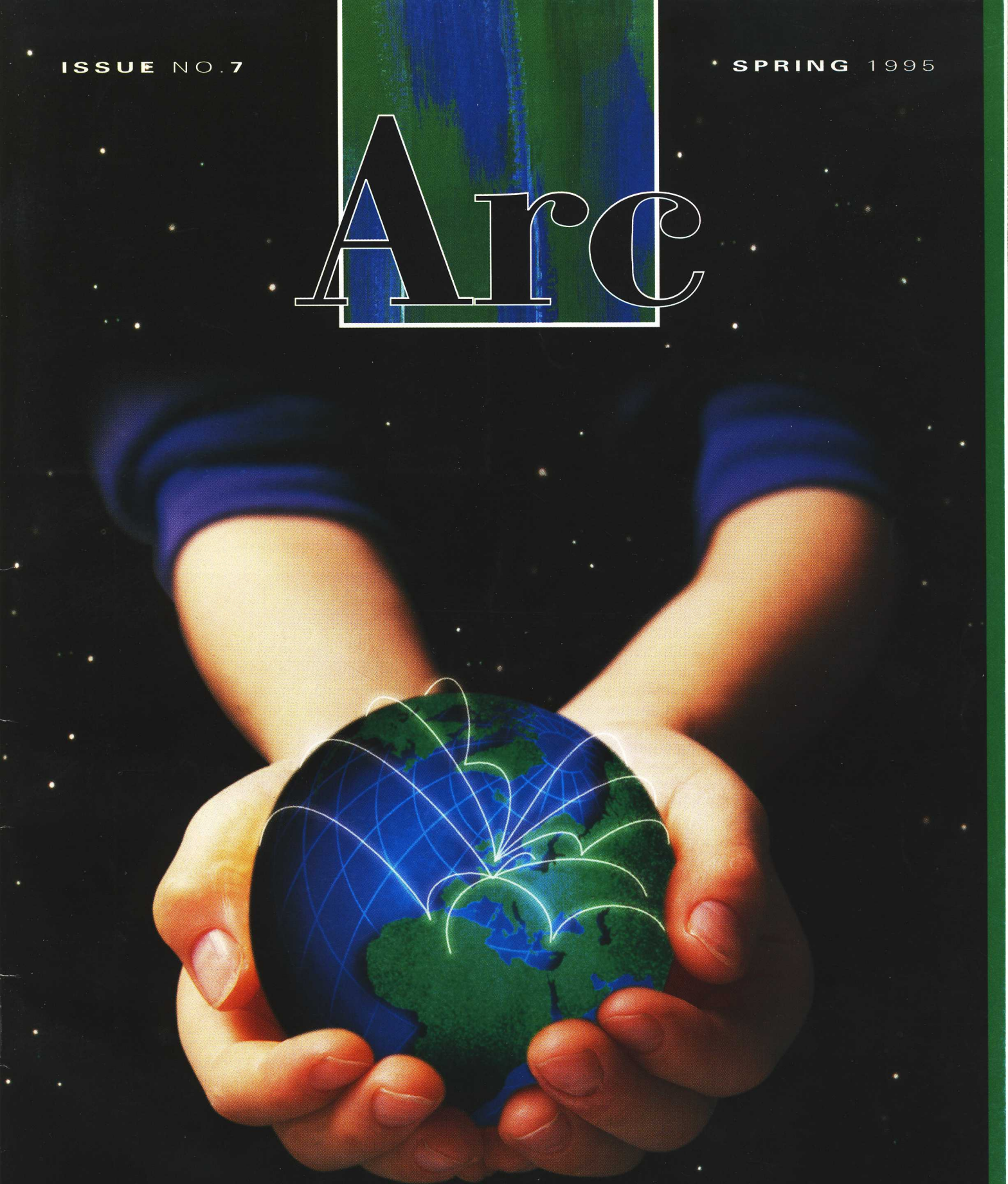
ISSUE NO.7

SPRING 1995

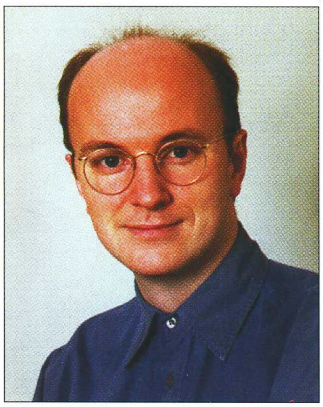
Arc



- **Exclusive** – Eight page Networking Guide to pull out and keep – all the latest communication solutions
- **IT in the community** – the Batley City Challenge
- **Special Solutions** – the full inside story
- **Early Years** – get an advantage from the start
- **Acorn Advantage** – great new bonuses

Acorn

CONTENTS



AS the New Year begins, it's time to brush off your favourite (failed) resolutions – and to come up with a few new ones to keep you on your toes.

Top of the list for '95 is networks. If you haven't taken the network plunge, make sure that this is the year when you bid an eager farewell to standalone computers. And if you already have, the chances are that you're not using networks to anything like their full capacity. Are you running multimedia over the net? Are your school-wide bulletin boards up and running? How about e-mail? Are your Macs, Acorns and PCs happily talking to each other?

This issue of *Arc* helps you identify these kinds of opportunity. Better still, we can point you directly at the brand new hardware and software networking solutions from Acorn that will fulfil and maybe exceed your wildest networking dreams.

At the same time, networking needs to be seen in perspective. For schools, networking is only worth the investment if it makes better use of precious resources (including time). In that sense, it's no different from other educational strategies. One such is the Open Integrated Learning Systems (OILS) initiative, which aims to take routine tasks out of teachers' hands, and create a more focused climate for learning inside and outside the classroom.

At the heart of the initiative lies a standards-setting exercise masterminded by the British Educational Suppliers' Association (BESA); this issue of ARC features an interview on the potential of OILS with BESA Director Dominic Savage.

I'll end by wishing you better luck with your New Year resolutions than I've had with mine – to avoid acronyms.

Martin Newman – Editor

e-mail: *arceditor@acorn.co.uk*

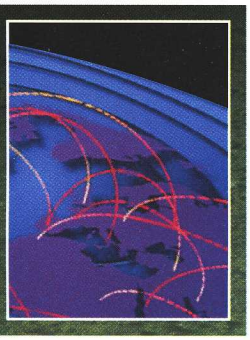
RC Where you see this logo, refer to the reply paid card for more information

APP789ARC Seventh Edition Spring 1995
Acorn Computers Limited, Acorn House, Vision Park, Histon, Cambridge CB4 4AE.
Telephone: 01223 254254
International: +44 1223 254254, Fax: 01223 254262

Designed and produced by
IDG Media Limited, Macclesfield

The Really Useful Networking Guide

- *Networking resources*
- *Acorn Access*
- *Practical implications*



Page 15

Pocket Phrase Book

THE new Berlitz Phrase Book – designed by Psion for Pocket Book computers – might just be the answer for any foreign language teachers struggling with the travelling nightmare of "How do I help my pupils to feel confident enough to practise conversing with the locals?"

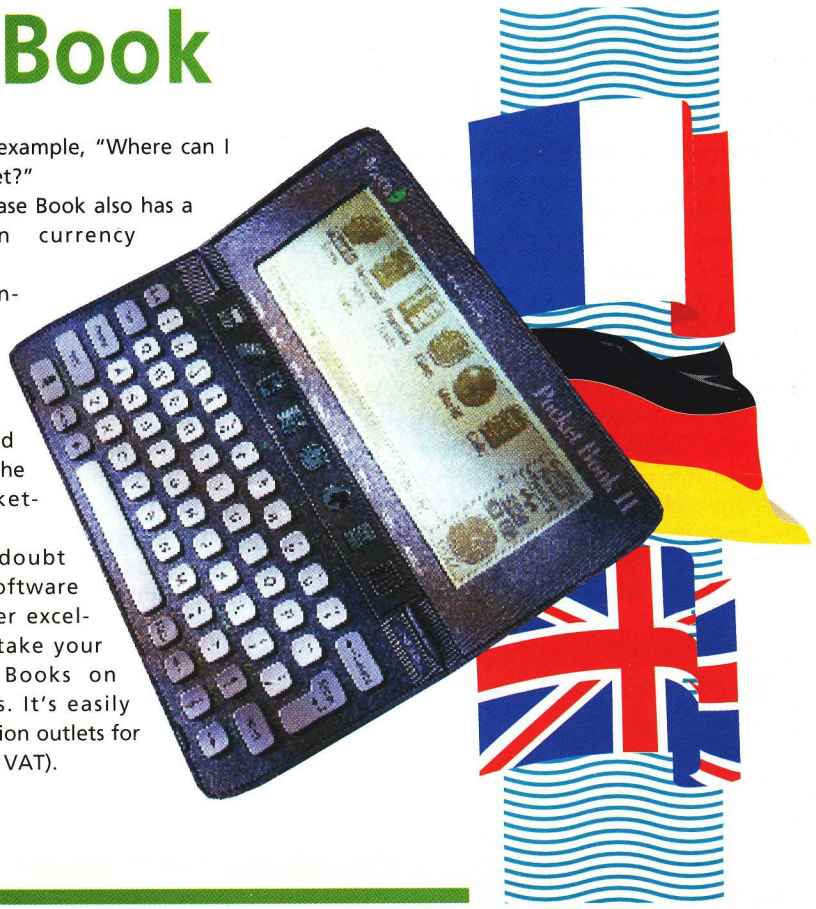
The software includes over 28,000 phrases in Danish, Dutch, English, French, German, Hungarian, Italian, Japanese, Norwegian, Portuguese, Russian, Spanish and Swedish, with the capability to change the source and target languages at a single key stroke. Phrases are arranged in 60 topic areas, including titles like Accommodation, Eating Out, Travelling and Emergencies.

For more ambitious pupils, there is a story or script facility which allows the user to build up a number of words or phrases and display them. Several phrases also allow the user to add in extra words, for example, "Where can I find... Acorn Street?"

The Berlitz Phrase Book also has a simple built-in currency converter.

This is a convenient feature which could prove useful as pupils become experienced and self-sufficient in the European marketplace.

There's no doubt about it. This software provides another excellent reason to take your Acorn Pocket Books on school journeys. It's easily available from Psion outlets for £59.95 (including VAT).



Creative software

A WEALTH of new material from Halifax-based Creative Curriculum Software (01422 340524) includes a new interactive spelling tool for pupils, a useful management package for teachers organising schools trips and an innovative curriculum resource which quite literally offers pupils a bird's eye perspective.

***Spelling Book* is aimed at pupils aged four and upwards. Unlike conventional spell checkers, Spelling Book allows classes and individual pupils to tailor word lists to their own specific requirements, selecting sets of words common to specific topic areas and adding their own words if they wish. Words can be selected actively from Spelling Book and there's a quiz section which allows dictionaries to be used as the basis for missing letter-type quiz games.**

***Trip* has been designed to take the hassle out of planning and managing school trips. Overall and individual pupil accounts, key dates and essential planning information are all prompted and managed by Trip which runs on any Acorn system. Trip handles all aspects of administration, up to and including issuing reminders when deadlines are looming or essential information is missing – which allows teachers to concentrate on the educational aims of a school trip.**

***Woodland Birds CD* is the first in the new Habitats series of CD-ROM software for ages 8 to 16. The series aims to draw out the special characteristics, requirements and interrelationships of the fauna and flora ot a particular environment. With Woodlands as the first theme to be explored, Woodland Birds will soon be followed by *Woodland Minibeasts*, *Woodland Animals* and *Woodland Plants*. The emphasis is firmly on an interactive learning experience, enabling pupils to explore an environment from the point of view of its inhabitants.**

Customised courses

THE Acorn Training Centre is expanding its services by running selected courses at regional training centres in Winchester, Durham and Wolverhampton.

The Centre is also happy to provide customised courses either in Cambridge or at schools, wherever they are located. Some advantages to on-site training include:

- options to arrange courses for a full day or after school
- minimum time away for teachers due to no travelling
- cost-effective training for groups as small as four teachers
- possibility to include all staff and invite staff from other schools.

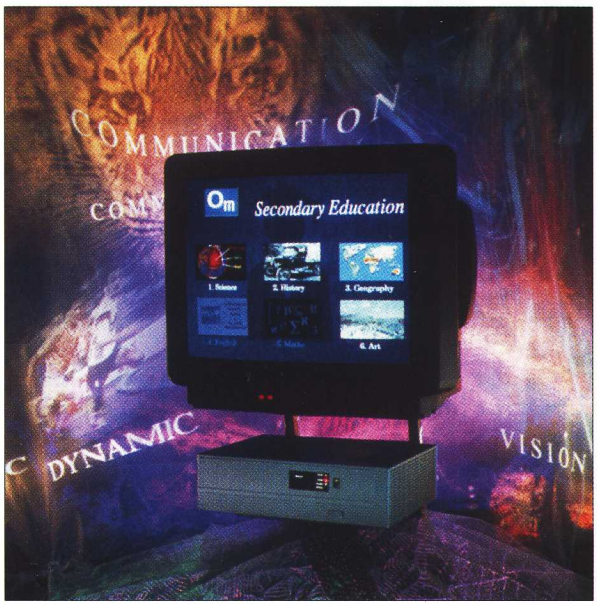
Current available training sessions range from introductory RISC OS and application courses to network management and technical seminars for hardware and software enthusiasts.

To discuss the possibility of customised on-site training to suit the needs of your school – or to request a list of training venues, dates and courses scheduled at various centres through March 1995, ring 0223 254386 or e-mail *training@acorn.co.uk*.

Crick's Clicker

LOOK out for literacy development software from Crick Computing (01604 713683), a new company specialising in mainstream education and special needs computing. Among their titles on show at BETT '95 are *Clicker Plus* and *Switch Clicker Plus*, designed to help mainstream primary and special needs pupils of all ages to develop reading, writing, spelling and even foreign language skills.

Interactive TV



ON 30 September 1994 a consortium led by Online Media – a member of the Acorn Computer Group – and including Cambridge Cable, Anglia Television and ATM Ltd *switched* on what is believed to be the world's first interactive television trial.

Online Media is providing the intelligent set-top boxes for the trial, along with ATM Ltd's digital networking technology and Cambridge Cable's fibre-based cable network, available to over 67,000 homes in the Cambridge region.

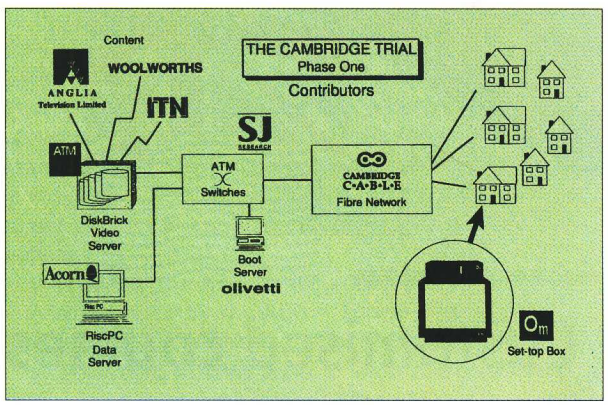
The technology involves linking a set-top box, which looks like a small video recorder, to the television set in people's homes. They then have access to a variety of services from a control centre in Cambridge. The *on-demand* services on offer include movies, and local news and weather from Anglia TV. Subscribers can access these as and when they wish and manipulate them by fast forwarding, pausing and rewinding – using a remote control as if the film were playing from their own video recorder.

An educational service will be available on the system, including software applications and educational games originally used on Acorn's 32-bit RISC computers which are being converted to run on the set-top box. This feature is intended to bring resources such as on-line encyclopaedias, visits to museums and science demonstrations, and other curriculum support right into the viewer's sitting room.

Other services such as music videos, sports, audio on demand – music, comedy and radio features – banking and shopping will be implemented as the trial progresses.

Commenting on the set-top trial, Online Media's chief cxecutive Malcolm Bird said, "After all the hype about multimedia and the information superhighway this is a real application, running into consumers' homes. It is a milestone for the multimedia industry using ATM from server to set-top."

For further information on the set-top trial ring Corporate Affairs at Acorn Computers on 01223 254254.



Message from the Milky Way

TAUNTON School in Somerset has enjoyed a national reputation for science project work for many years. Acorn computers and equipment have played an integral part in the school's history of fascinating projects – including the high-profile Radio Astronomy Research Project documented on Patrick Moore's *Sky at Night*.

The IT set-up for the Astronomy Project is simpler than one may think. A radio telescope dish sits on top of the the school's science block and collects signals from microwave emissions from the sun, radio-galaxies and the Milky Way. These signals are sent down to an Acorn A3000 where they are automatically stored and made available for study. A whole range of research tasks are then carried out on the Acorn computer, from the rearrangement of data, construction of diagrams and production of reports, to running simulations of what type of signals the project team expects to receive in the future.

Feeding the information from the radio telescope dish directly into the A3000 and storing it there represents a significant leap in new methods of interfacing, data logging and signal processing. Gone are the days when such data was of necessity churned out of a chart recorder which emptied endless metres of paper on to the science room floor.

Aside from the obvious fulfilment of National Curriculum stages relating to science, physics and geography, how can research such as the Radio Astronomy Project benefit the school as a whole? Trevor Hill, Head of Science at Taunton remarks, "We find that the ethos of science being a live activity has spin-off at all levels and can provide stimulating material from the sixth form down to our kindergarten pupils."

John Fisher, Head of IT, also notes the positive influence on general IT attitudes in the school: "Four or five years ago we were still showing people how to use computers. Now when students see a project where the A3000 is used as part of the toolkit – the computer is almost invisible. It's actually a mark of success that you don't have to make a big song and dance about the role of the computer in any project. Computers are not just something that we've shown them and talked about, they're a useful and very natural part of the learning environment."

Questionnaire winner

THANK you to all *Arc* readers who took the time to send back the *Arc Questionnaire* included in our last issue. The deadline for the prize draw was extended an additional 10 days and because of your huge response, the questionnaires are still being analysed as this issue goes to print. We have made a preliminary analysis of your responses, and you can read this on page 35.

The lucky winner of the Pocket Book II is J.C. Black of West Kilbride, Ayrshire, Scotland. Happy computing.

Common ground

We interviewed BESA Director Dominic Savage on the tricky subject of establishing common ground between suppliers and their educational customers

WITH over 60 years of experience representing BESA, the trade association for the educational industry, seems to be in the process of re-inventing itself as – among other things – an IT standards setter at the cutting edge of Integrated Learning Systems.

● *How do you see BESA's role in education?*

We act as a facilitator, creating links between suppliers and educationalists. Our role is very simple: to ensure that everyone gets a good deal. We want our 220 members to get a good deal, which means encouraging them to provide products that respond to specific educational requirements. And we want schools and colleges to get a good deal, which means encouraging them to analyse and communicate their resource needs. As a facilitator in the equation, we're finding that our role is increasingly concerned with standards.

● *Is the focus on standards something new?*

Not really. We've always operated a stringent code of practice for our members as a way of guaranteeing customers' rights of complaint and comeback. And we have designed and policed standards for a whole range of educational equipment. The new dimension to our standards work is our move into IT-related standards.

● *How did that move come about?*

One of the specialist groups within BESA, our Optical Mark Reader (OMR) Group, was asked to develop a standard for reading OMR forms by SCAA, the School Curriculum Assessment Authority. Obviously, SCAA has to produce thousands of forms every year. The challenge was to create a standard that would allow the forms to be read on every OMR system in the country. SCAA now has a standard that it can use whenever they are asked to tender for the provision of OMR forms, and the industry has moved forward in identifying an opportunity for jointly formulating other standards for IT.

● *For example?*

OILS, Open Integrated Learning Systems. More and more schools use management software for a whole range of administrative and data management tasks. And at the other end of school usage, there's a wealth of curriculum software. So far in the UK, there have been no attempts to link these two aspects together – until the concept of OILS came along. At the heart of OILS is the need for a standard to establish an area of technical common ground so that the systems really can integrate. And that's the opportunity.

● *What does the OILS standard entail?*

Our standard is a tool for software developers and courseware writers. Anyone who keeps to it will be able to write curriculum or management software that will link together. The best thing is that you don't have to throw away existing software resources. Courseware will be written that links existing software directly into the management systems.

● *Clearly OILS has pinpointed an issue of current concern within education. Can you be confident of its relevance for the future?*

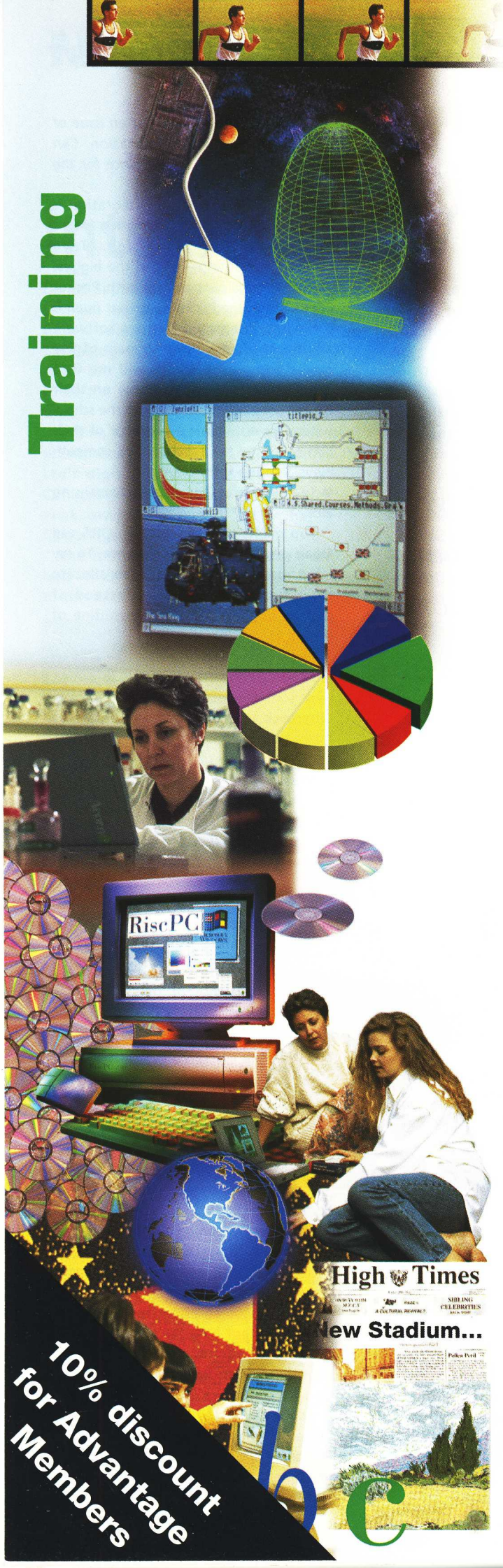
Certainly. This level of integration is exactly what we see characterising future developments in education. Take portable computing – one of the biggest growth areas, particularly with Pocket Books. Once one Pocket Book per pupil is the norm, integrated learning software will become an automatic part of the pupils' experience. Pupils will use OILS compatible software at home on their Pocket Book and then link into the school system for automatic assessment of their homework by the school's OILS compatible evaluation software.

● *So a successful OILS standard means no more teachers?*

You might think so. Clearly, OILS can mean greater pupil independence. To my mind, that means teachers can allocate their time more usefully. Instead of getting bogged down in the routine of setting tasks and evaluating results across a whole class, teachers should be able to concentrate on those things in which their professional input can make a real difference to their pupils. OILS will help take routine tasks away from teachers and allow them to focus their skills on real educational priorities. But it will also have an impact well beyond the classroom. OILS gives a basis for linking management software into school admin software, and eventually for linking school records into national assessment records. With the DfE's apparently insatiable appetite for paperwork, the automisation of that process will be good news for all educational professionals.

● *The model you are describing seems close to the way in which large companies use IT. How appropriate is it to use a business model in an educational context?*

Obviously, schools aren't businesses. But the best schools are certainly business-like. Businesses operate automated, integrated systems for their data because these systems provide an enormous amount of feedback about how the business is performing. That in turn allows them to identify strengths and weaknesses, and plan for the future more effectively. And it achieves all this without tying up valuable management time. With OILS that same opportunity is available for the first time to the educational community.



With the increasing pressures on education today, IT planning has never been more complicated. And for the same reasons it has never been more important!

insIghT 95

incorporating ACCESS IT

is the essential conference for headteachers, department heads, IT co-ordinators and everyone involved in planning or implementing educational IT strategies.

At *insIghT 95* you will:

- Acquire a wealth of ideas for effective development of IT in your school.
- Learn how to plan and implement a solid IT strategy.
- Meet and exchange ideas with fellow professionals from education and industry.
- Gain invaluable insights into current and emerging technologies.
- See and use the latest products from major educational suppliers

...and all this whilst retaining the choice of curriculum and technical training which has won ACCESS IT conferences a reputation for quality, relevance and effectiveness!

insIghT 95 takes place at the Hinckley Island Hotel, Leicestershire, on Friday 14 July and Saturday 15 July. Delegates have a comprehensive choice of training sessions, extensive training notes and full board at the 4★ Hinckley Island Hotel with use of the hotel pool and leisure facilities.

There are two good reasons for registering your interest now

- You will receive a comprehensive conference booklet by the end of February 1995.
- All bookings received before 26 May 1995 will be entitled to a discounted price of £249 exc. VAT (£292.58 inc. VAT).

Bookings received after 26 May will be charged the full conference fee of £499.

To receive further information fill in this form and return it to:

insIghT 95 Conference Administrator,
Acorn Computers Ltd.,
Vision Park, Histon,
Cambridge, CB4 4AE.

Name .....

School .....

Address .....

.....

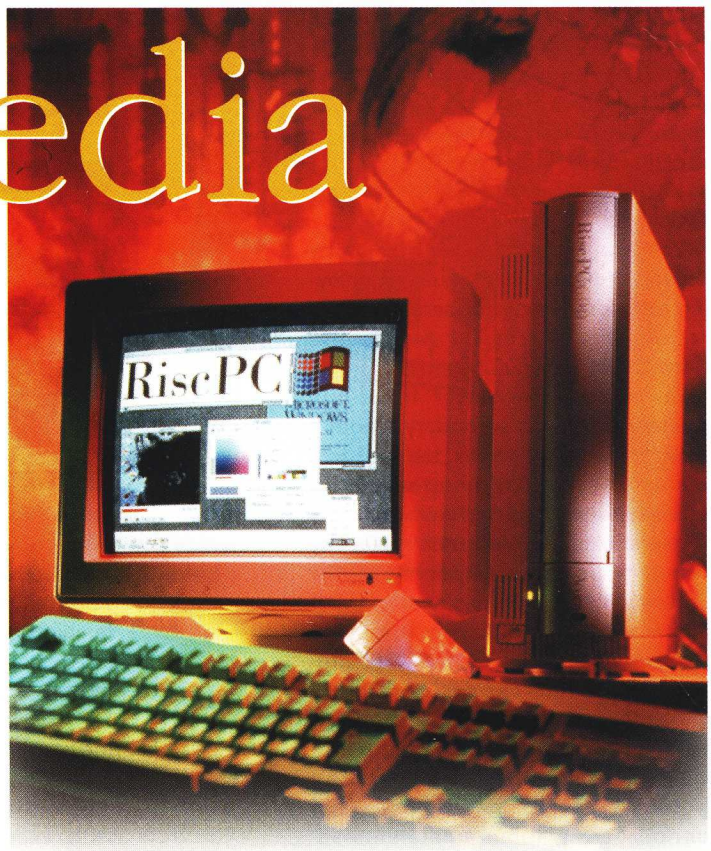
.....

Telephone .....

Or telephone the *insIghT 95* Administrator on:
01223 254386.

Acorn

Making multimedia special



The launch of the SEMERC Risc PC aims to increase the access of children with special needs – Arc investigates

ACORN'S exciting new Risc PC 600 has been greeted with open arms by educators across the UK. This month's grand launch of the SEMERC Risc PC and the SEMERC Risc PC+CD at BETT '95 focuses on making the multimedia capabilities of this machine accessible to more children by making *special* resources like My World and the Concept Keyboard attractive to all learners.

Both packages include £350 worth of special needs resources for just £51 more than the standard Risc PC 600 hardware – pushing prices down to *mainstream* costings and below.

Northwest SEMERC claims to design its resources for 100 per cent of learners – not just for the 80 per cent who don't have a special educational need. At the same time they aim to give those learners who have special needs as much power as possible.

Special power

"Too often we hear of old technology being given to special needs departments in schools," comments Trish Hornsey, SEMERC's Development Manager for Acorn products. "Although the BBC computer is still a very good workhorse for some purposes, it doesn't take much imagination to argue that learners with special needs really need the power of graphics, video and sound that the more powerful computers can give them. Sometimes they need it even more than other users. The software installed on the SEMERC Risc PC is designed with that purpose in mind."

The SEMERC Risc PC costs £1,450 plus VAT and the entire package consists of:

- Acorn Risc PC, 5MB RAM, 210MB hard drive, 14in SVGA screen
- Full Phase+2 – The latest version of the most popular Acorn educational program in British schools
- Go Go! – New and easy-to-use turtle graphics program
- Informatrix – Concept Keyboard editor which also works with Informatrix – without access to a user port
- Facepaint – Create hundreds of faces and make them talk
- Front End – Learners can easily access their own files and programs while the rest of the files are kept safe from prying fingers
- Mini Alex – Laugh, cry and blow raspberries – a wealth of pictures, sounds, overlays and sample files
- Special utilities – Extra help for physically handicapped and visually impaired pupils
- Active stereo speakers – Enjoy Risc PC stereo sound to the full.

Alternatively there is a CD-ROM option – SEMERC Risc PC+CD – which is priced at £1,650 plus VAT. This includes everything in the previous list plus:

- Acorn's on-board CD-ROM drive
- SEMERC's Treasure Chest CD.

These prices include support from SEMERC's network of Acorn dealers with training and experience in the area of special needs. For more information ring Trish Hornsey on 0161-627 4469 or fax her on 0161-627 2381.

Inner c
st

The RSICS Project is making a real difference to education in inner-city Manchester – independent adviser John Smith reports

EFFECTIVE Inner City education poses unique difficulties. Some schools in this situation are happy if they can simply hold the educational line. When movement of pupils between schools can be frequent and unpredictable, and pupil motivation is low, actively raising standards can seem a daunting task.

The Raising Standards in Inner City Schools Project in Manchester is enjoying some dramatic successes. The is the result of a successful bid to the Department for Education by a consortium of 15 Manchester inner-city primary schools, a secondary school – which many of them feed – and Manchester LEA for grant-aided funding to develop technology across the curriculum. The project is funded by the LEA and the Department for Education for just under three years and is managed jointly by the head-teachers and the LEA.

The main aim is to significantly enhance the curriculum, resulting in raised standards, by developing teaching and learning styles using technologies that can impact on a wide range of curricular areas.

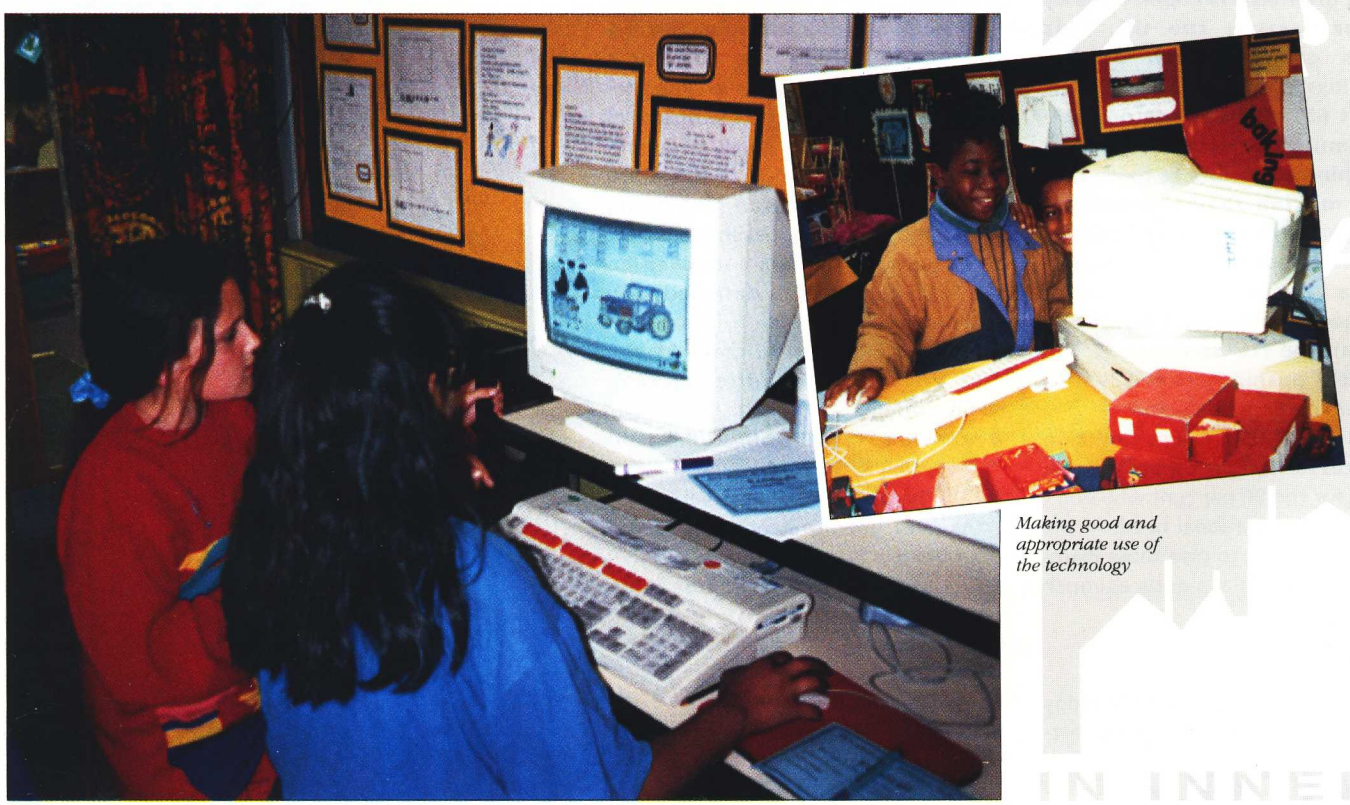
The project is also looking at effective strategies to improve transition at different stages within the primary school, between primary schools – the schools are in an area characterised by very frequent movement of pupils and families and rapidly changing housing patterns – and from primary to secondary school.

The emphasis during the first half of the project was on Design Technology, and the impact this can have on a wide range of curriculum areas – improving skills, expectations and outcomes. The schools were provided with computers, software, design resources, a half-time technology support teacher and an ancillary worker who work alongside teachers to introduce and develop the use of appropriate technology.

Training

All the project staff – teachers, technical and ancillary – underwent a comprehensive training programme which has been cascaded in schools and continues to form an integral part of the project with every member of staff in all the schools having access to some form of training.

Exhibitions, newsletters, regular meetings and exchanges aid dissemination. In



Making good and appropriate use of the technology

ty
andards

addition, all the primary headteachers know each other well and are used to working together effectively.

Enhancements

The emphasis of the second half of the project is Information Technology. Pilot projects are already underway such as one group of schools developing teaching methods and materials using class sets of Acorn Pocket Books with younger children.

Another group of schools is working with multimedia systems and in particular with Acorn computers with MIDI sound modules, digitisers, scanners and CD-ROMS. A third group is evaluating the advantages of networking the school to give children access to large-scale shared resources and to help teachers with the management problems presented by a large number of stand-alone systems.

At the centre of all this organisation and training – and of the installation and development of the technology, computers and teaching materials – are the children. Visitors to any of the project schools find children hard at work using DT materials and computers with ease and confidence, making choices and producing work using the technologies in a wide range of curricular areas.

Conclusions

Visitors also find classroom and corridor walls covered with the fruits of this labour, with exciting and interesting work reflecting the diversity of opportunities and choices possible when properly using design and information technology across the curriculum.

Does the use of technology raise standards? It obviously does, children are using computers and materials with confidence, when before they used them little or not at all.

Teachers' and pupils' expectations of what they can, and should do, are rising and will continue to do so and to generate an excitement in learning, as the current mini-projects extend across all the 15 schools. Further strategies are being developed to continue to share good practice and to plan the continued development of the use of computers and other technologies.

The confident use of technology is becoming an essential part of all our daily lives. In the context of education, technology can and should provide the opportunity of improving learning and enhancing the whole curriculum.

IT takes many forms

Making th of t

ON 21 October Acorn launched the Early Years Pack by installing it in the play areas on the Pride of Portsmouth and Pride of Le Havre ferries which service the Portsmouth to Le Havre crossings. Acorn Computers and P&O European Ferries joined forces to bring the world of fun and creative computing to cross-Channel travel.

"We are continuously striving to make our trips as enjoyable and fulfilling as possible for the passengers," comments David Brooks, Manager of Hotel Services for P&O European Ferries. "We believe the installation of the Early Years computers will help us make this difference and provide a great environment for families starting their holidays in France."

Just fun

The McCarthy family from Kingston-upon-Thames were on board for the launch of Early Years. "It's a splendid idea," comments Mr McCarthy. "The children like interactive IT and we like to keep them away from platform-jumping games. This is great for the time on board because the children don't see it as school work – just fun."

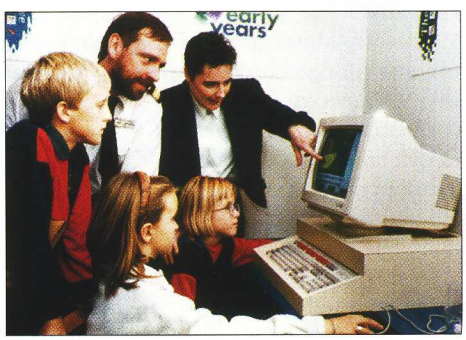
When asked how much his children might use the Early Years computer during the crossing, McCarthy was quick to predict: "As much as the strength in their elbows will gain them access. I bet you will need to install more machines."

Seven-year-old Ben McCarthy was indeed eager to have a go. "I like Doris the Dog because it tells you stories and I can click for it to tell and I don't have to just read it," Ben explains. "I'm lucky to be having a ferry ride today."

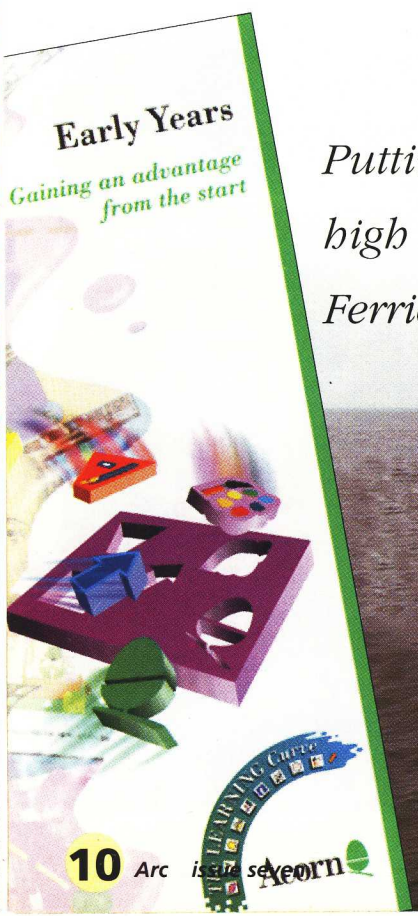
P&O partnership

The partnership between Acorn Computers and P&O European Ferries breaks new ground, as these are the first computers specifically designed for children to be installed on a ferry. It looks as if this partnership will continue to expand, as the ferries' duty free shops are now selling Acorn's increasingly popular Pocket Book II.

Further inland, in Middlesex, eight-year-old Nigel Douglas and his four and a half-year-old sister Dorothy have been using Early Years since it was launched



Putting the Early Years Pack through its paces



Putting fun and education on the high seas, courtesy of P&O European Ferries and Acorn

e most he Early Years

in October. "Dorothy started using a computer in the Rising 5's Unit when she started school last September," remarks their mother. "We enjoy having the A4000 at home because it supports that learning and generally engages the children's minds as well as their sense of fun and creativity."

"I'm in Year 3 at school," volunteers Nigel. "I like to use StartWrite the best because we're learning about the Aztecs and I like to hear the computer say what I write about them. It's fun to use the zoom and change the letter sizes and shapes and that makes it look good in my project folder."

Bridging the gap

Dorothy was seemingly too busy to answer any questions. After putting the disc into the floppy drive, she was typing her name into the registration space so that she could open her favourite Gemini game. Having accomplished this, there was a broad smile and a little squeal of delight – all making it very obvious why the Douglas family is proud to be one of the UK's 5.2 million households owning a computer, and to be one of the first families to choose Acorn's Early Years to help bridge the gap between home and school.

What goes to make the Early Years Pack?

EARLY Years is a combination of hardware and software designed especially for primary aged children as part of the Learning Curve range from Acorn. The pack includes a choice of A3010, A4000 or Risc PC computers, along with software specifically written for young children to encourage their literacy development. Titles supplied with the pack are:

- **Talking StartWrite** – Powerful yet easy-to-use word processor which can speak words as they are typed to show that they have been typed correctly. Pictures can also be *dropped* into the text.
- **Gemini** – Fun picture and pattern-matching game which tests and develops memory skills. Contains many different card sets from simple shapes to photographs.
- **Amazing Maths** – Entertaining and instructional maths game in which children have to find their way through a maze. Parents can decide the difficulty of the questions asked, both in terms of the numbers used and the operations that are available.
- **Doris the Dotty Dog** – Animated storybook in which each word is highlighted in red as the computer reads it. Good for children who are not yet reading, as well as children who are developing their reading vocabulary.
- **Explore with Flossy the Frog** – Imaginative example of interactive fiction where the user is in control of what happens. The delightful pictures encourage questions and all have different effects and actions.
- **A Mouse in Holland** – A talking and dancing adventure simulation which follows the exploits of Maarten Muis who lives inside a windmill in Holland.
- **Paint Pot** – Acorn's own paint program. Examples of the many facilities of Paint Pot are given, as well as a library of animals and sea creatures that can be used to build a jungle scene or underwater pictures.

The pack also includes an Audio Training Tape to help parents learn the features of RISC OS and the Application Suite – a variety of applications and tools for use with the RISC OS desktop, all explained in a RISC OS User and Applications Guide.

Early Years is available from local Acorn dealers with the following hardware configurations and prices (including VAT):

A3010 (2MB) Early Years (for use with television)	£399
A3010 Early Years System (inc monitor)	£599
A4000 Early Years System (inc monitor)	£1,099
Risc PC Early Years System (inc monitor)	from £1,499

- To get the name of your nearest Early Years stockist ring Acorn on 01223 254222.

The prac

Following the positive findings of NCET's report on Portable Computers we asked Dr Pat Fung of the Open University to summarise her team's independent research findings on the Acorn Pocket Book

FROM our research perspective, the aims of the project were to identify aspects of portable computer usage which would be of interest to future planning for their use in an educational setting; to gain some insight into the ways in which they might enhance learning, and to estimate their contribution to a specific curriculum area, in this case the composition of pupils' Records of Achievements (ROAs).

The principal instruments used in preparing the evaluation and achieving the research aims were questionnaires administered to pupils, parents and staff before and after the Pocket Book experience, as well as regular observation of pupils using the Pocket Books.

Feedback

Pupils were asked to indicate their attitudes to computing in general, to determine whether the Pocket Book experience would have any effect upon these attitudes. Table I contrasts the feedback obtained before and after the experiment.

In relation to the Acorn Pocket Book, pupils were also asked to record their expectations of this form of computing. Their answers were cross-checked with responses on the same topic after the experiment, as shown in Table II.

Peer interaction

Qualitative data suggests that students completed the Pocket Book assignments relatively quickly, which may account for the difference between prior expectations and actual practice. On the other hand, a number of pupils used it more often that they had anticipated. Almost 65 per cent indicated that they would have liked to have kept their Pocket Book longer than the research period.

Points commonly noted during observations made by the research team were the generally high level of enthusiasm of the pupils, the ease with which they adapted to the new technology and the high level of peer learning interactions. As they learnt new things about the Pocket Books, pupils shared their findings with others and similarly problems were tackled by asking other pupils first, only calling on the tutor if friends could not give the needed information.

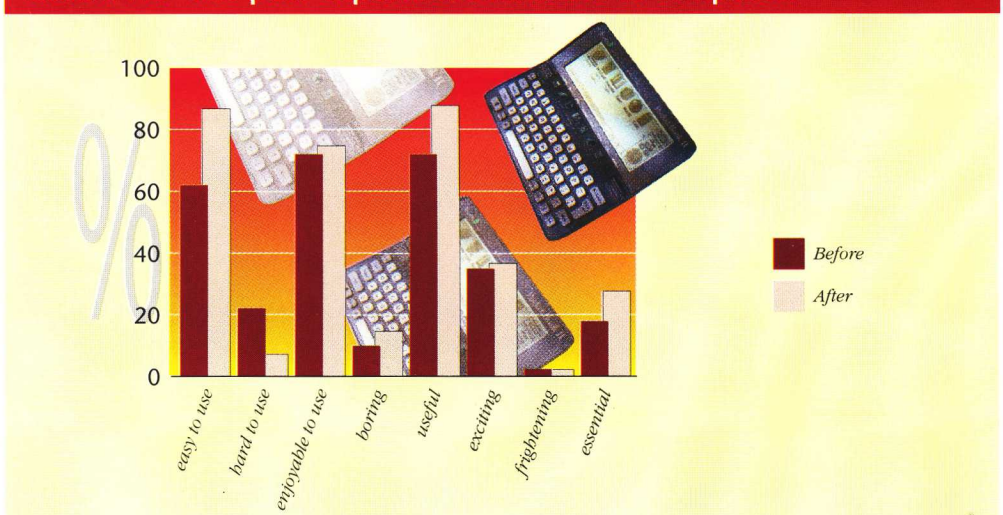
Parental interest

Parents were on the whole enthusiastic about the prospect of participating in the project, most believing it would help to improve their child's Record of Achievement. Positive aspects of the Pocket Book mentioned were: its convenient size for carrying around; the benefits of pupils having a personal computer; the improvement in presentation of work that it would facilitate; and the added motivation that it would give to pupils.

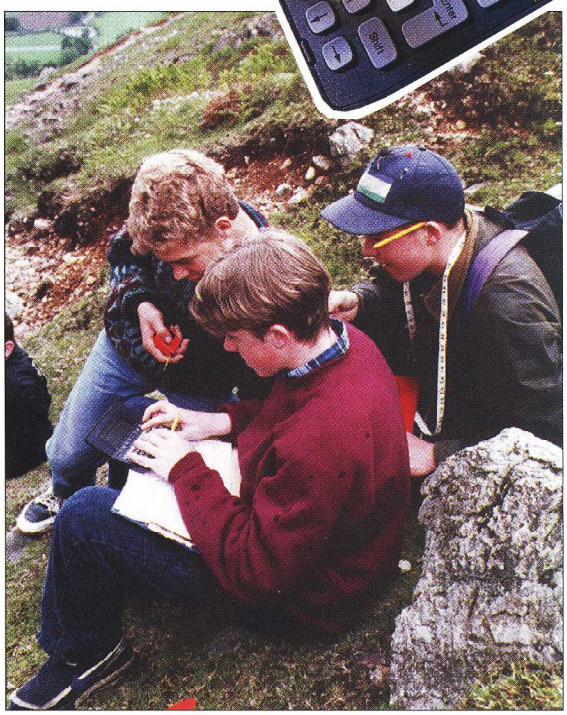
The two principal reasons given by parents for their willingness to help with Pocket Book work were interest in the project and the prospect of being actively engaged in learning together with their children. The reason, where given, by those parents who did not expect to be involved, was principally lack of time.

There were indications that parents who felt strongly in favour of, or strongly against, computers before the experiment simply became more entrenched in those views. However, the experiment was instrumental in

Table I: Pre- and post-experiment attitudes to computers



tical portable



changing the attitude of a number of parents from being ambivalent to being more positive.

Staff data

In relation to the specific work set for pupils, almost all judged that the use of the Pocket Book computers had helped pupils to produce a higher standard of ROA than would otherwise have been possible. Reservations, where expressed, were that the time in which pupils were able to make use of the Pocket Books had been too short to show their full potential, and that perhaps their use was a hindrance to pupils developing the more basic skills of writing.

In contrast to this last reservation, there were a number of positive staff comments on the Pocket Book as a motivator, especially for those pupils who don't like writing, because they could use it in their own time. It was also noted that the Pocket Book experience gave pupils the incentive of *pride of personal possession* and enticed them to check their own spelling. Lord Grey School also benefited from eased use of IT rooms during the project.

Motivation

In summary, the use of Pocket Books has provided an extra work motivation for pupils. Their use has offered pupils the ability to learn more about computers in everyday life, and they have proved a focus for pupils to concentrate on producing a well-written and professional looking ROA.

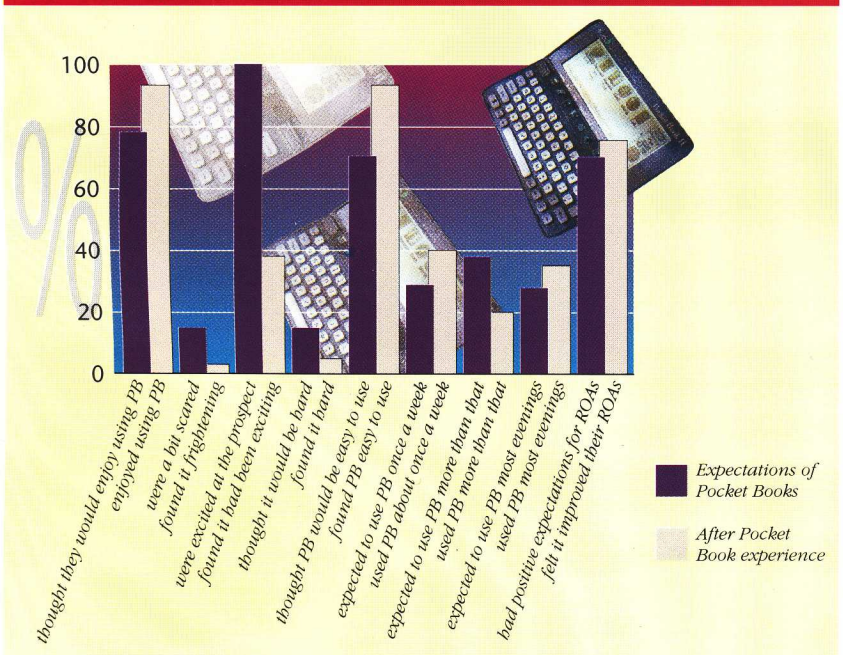
Furthermore, their use has stimulated the pupils to consider aspects of information management and technology at a more personal and individually meaningful level.

The teachers involved have considered participation in the experiment an *enriching* experience and, in spite of the extra time load which this participation added to an already crowded work schedule, found it beneficial at a personal and professional level.

In evaluating the effects and the outcomes of this study, it is clear that Pocket Book computing has much to offer.

The next step must be to demonstrate on a wider scale and over a longer time period that its benefits can be exploited in a broader educational context.

Table II: Expectations of Pocket Books and actual experiences



● *Dr Pat Fung is team leader for research at the Open University Institute of Educational Technology. Anyone interested in reading the Open University's full 10 page report on this Pocket Book experiment may contact Dr Fung on e-mail:* p.fung @open.ac.uk.

Special solutions

Martin Littler, Director of Northwest SEMERC in Oldham, examines the place of special needs software in today's schools

"ISN'T this software for special needs?" asked a primary school teacher. Well, it was, but unless it offered something for every learner it would be useless. "Do you have anything for dyslexia?" asked another. Well, we do, but we would not want to increase a child's feeling of separation by giving them *special* resources to work with, while the rest of the class gets on with something *normal*.

Special needs is about inclusion, not separation. Often computers can offer unique opportunities for learners with special needs to join in too. Word processors can offer sharply presented work even if you have problems controlling a pencil – HMI recently reported some research showing that using a word processor can improve handwriting.

Word processor text in different sizes and colours can help a visually impaired child join in. Talking word processors – Logotron's PenDown or Full Phase – can help visually impaired children as well as poor readers by providing extra motivation and the opportunity for learners to correct mistakes like letter reversals, which are obvious when your writing is read out by the computer.

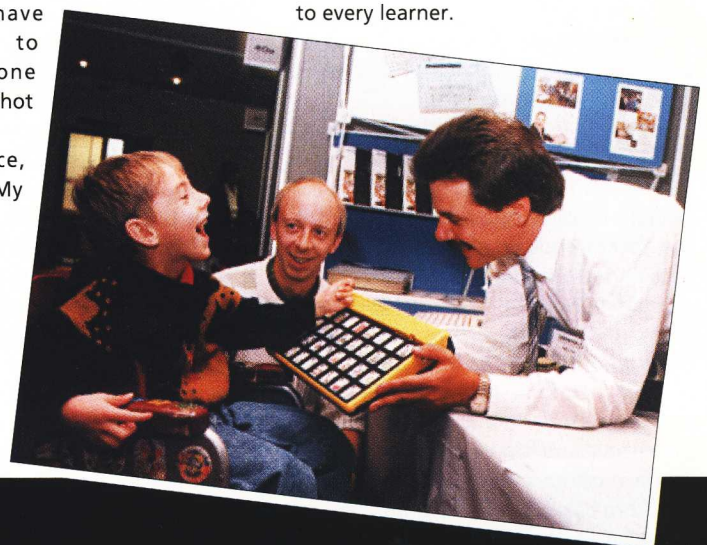
Overlay keyboards also offer the chance of including learners by matching the same computer program to the needs of each child or group of children. The multitasking Archimedes or Risc PC offers Concept Keyboard or Informatrix text and macro entry to every program, so that children can accomplish complex tasks using simple overlays matched to their abilities.

Hot property

The National Curriculum for England and Wales has made inclusion important. Every child is now entitled access to the curriculum and learning resources need to reflect this. Programs that were originally developed for special needs but have something to offer everyone have become hot property.

For instance, Derbyshire's My World – a sort of computer fuzzyfelt – was designed for one severely physically handicapped girl. It was the only way she could make a diary of her day. Now almost every young learner in Britain with access to Acorn computers has experienced several of the 700 My World screens. This versatility includes older learners such as Massey Ferguson apprentices *dismantling* tractor gearboxes.

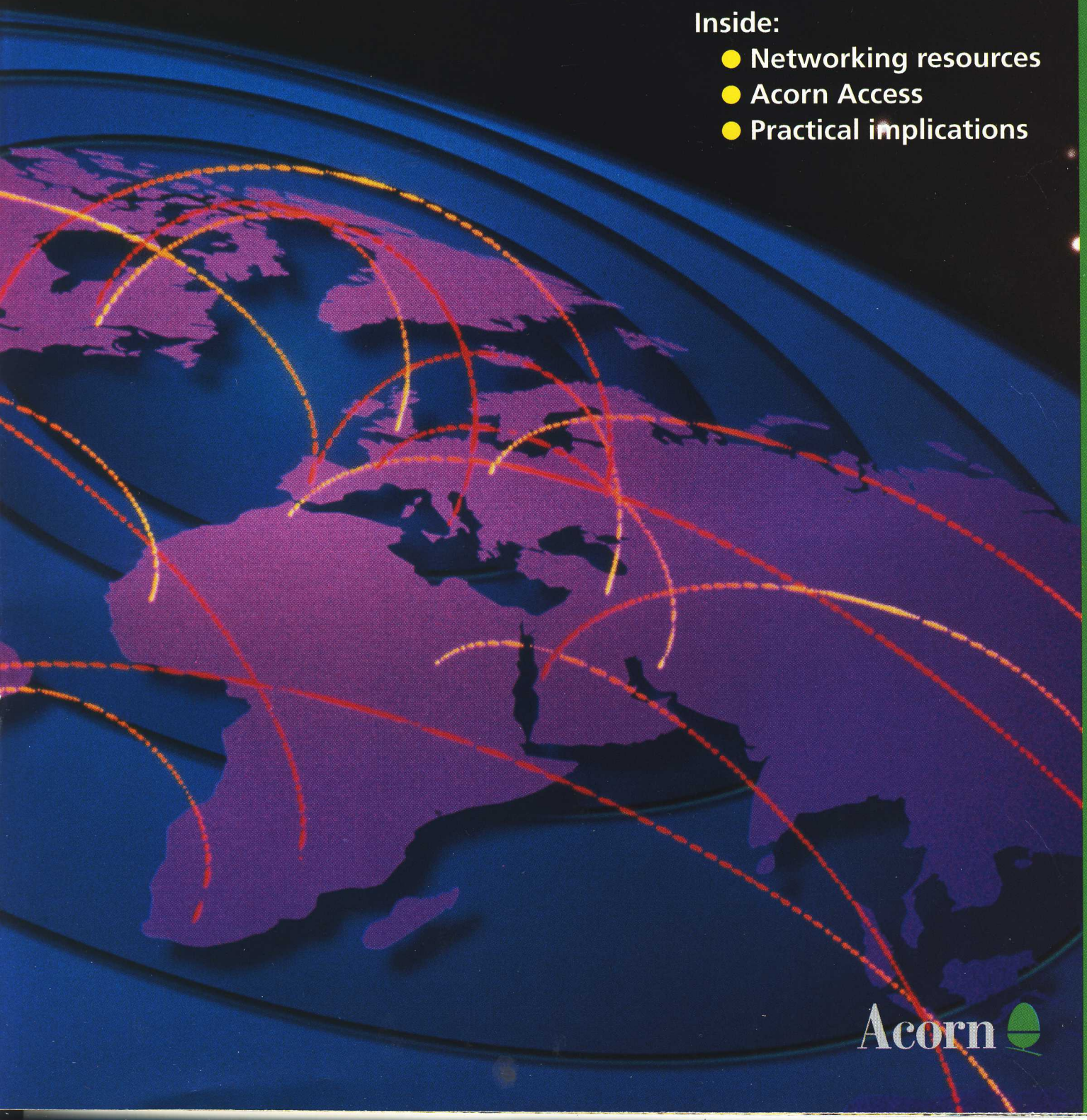
Acorn has a head start because of the wealth of existing resources which are accessible to learners with special needs. Acorn is building on this by talking to third party developers about access and inclusion before launching new computers like the Risc PC. Because of this, the UK is building an enviable battery of learning resources on computer that is increasingly accessible to every learner.



The Really Useful Guide to Networking

Inside:

- Networking resources
- Acorn Access
- Practical implications



Acorn

Something for everyone...

THERE was a time when the main reason for installing school networks was to cope with the tidal wave of floppies – and cope they did. But if you still think that's what networking is all about, you're in for a big surprise.

This special *Arc* Networking Supplement coincides with the launch of a new range of Acorn networking solutions, to give you and your pupils quick and easy access to the Internet as well as providing whole school networks. In addition, these solutions make precious multimedia resources available to all users across an entire campus, linking Apple Macs, PCs and Acorn machines in a single, seamless network.

If you've never taken the network plunge, you couldn't find a better or more exciting time to join in the fun. If you've managed so far with Econet and pre-RISC OS 3.1 technology, this is the time to upgrade. And if you're a state-of-the-art networking buff, now is the time to take a close look at what Acorn has to offer – more competitive, in terms of price and performance, than anything else on the market.

Our Really Useful Networking Guide has something for everyone.

Martin Newman

The Really Useful Networking Guide is a supplement to Arc 7 – published by Acorn Computers

What's in i

THE average school has three traditional levels of access to resources for curriculum support. First, there are books located in the classroom itself. Second, a student can go to the school library which houses encyclopaedias and other reference materials. And third, there are town or community libraries with broad collections of periodicals and other publications not usually available in schools.

Curriculum resources

In today's educational environment, the definition of *having access to good curriculum resources* is rapidly expanding. It still means good textbooks, good teaching and good libraries. But it also means access to resources available through information technology – particularly multimedia computing.

Some would contend that computer resources have taken over as the prime means of access to curriculum support. Whether that statement is true for your school or not, it is possible to get more out of your IT – and your pupils – by allowing your school computers to fit into the traditional model of three levels of accessing information.

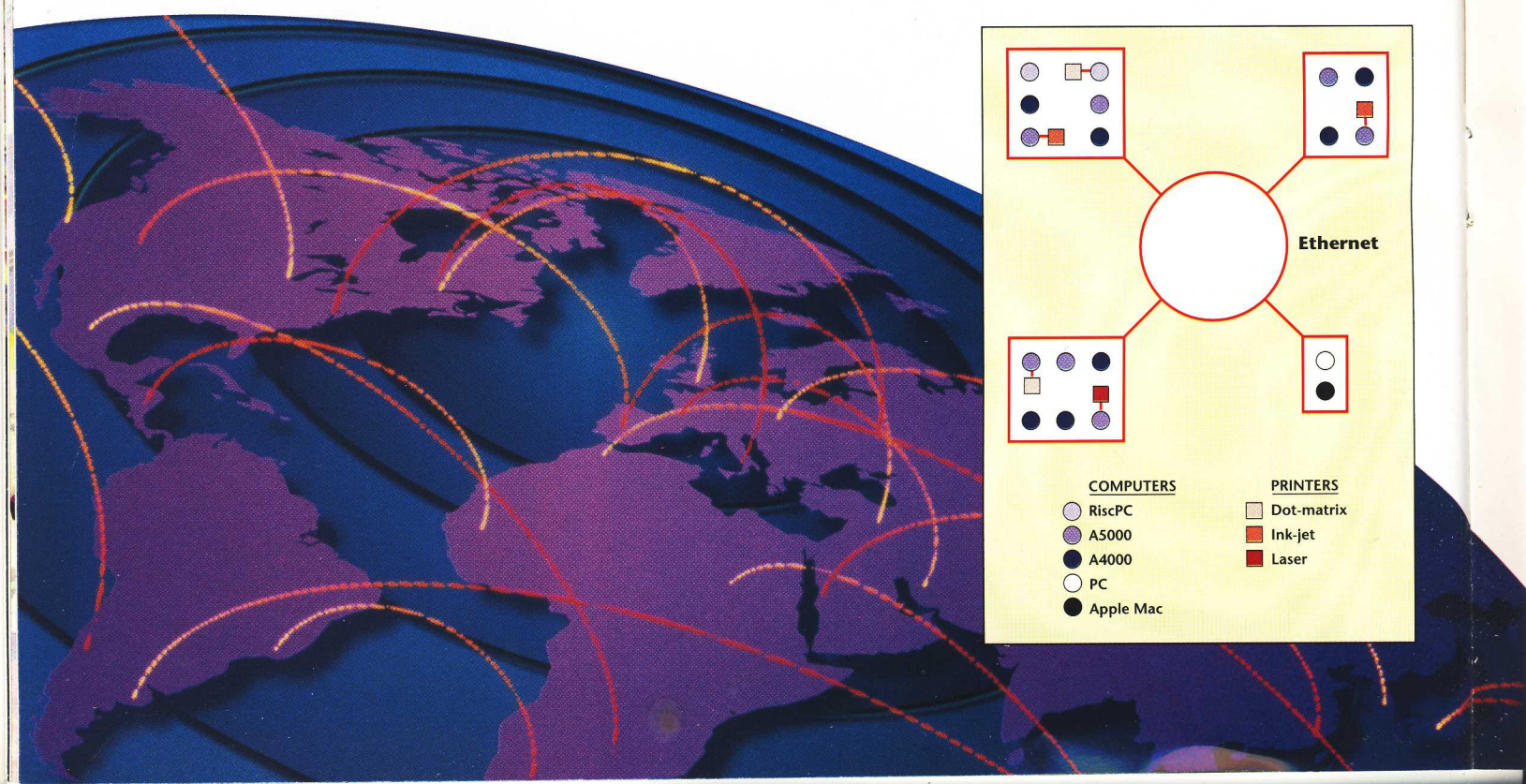
LANs and WANs

A standalone computer can be used to serve the needs of individual pupils and teachers in class. Alternatively, a good department or campus-wide network – often referred to as a Local Area Network or LAN – means that several users can simultaneously access information, CD-ROM, printing and other work resources normally only available by walking to another part of the building.

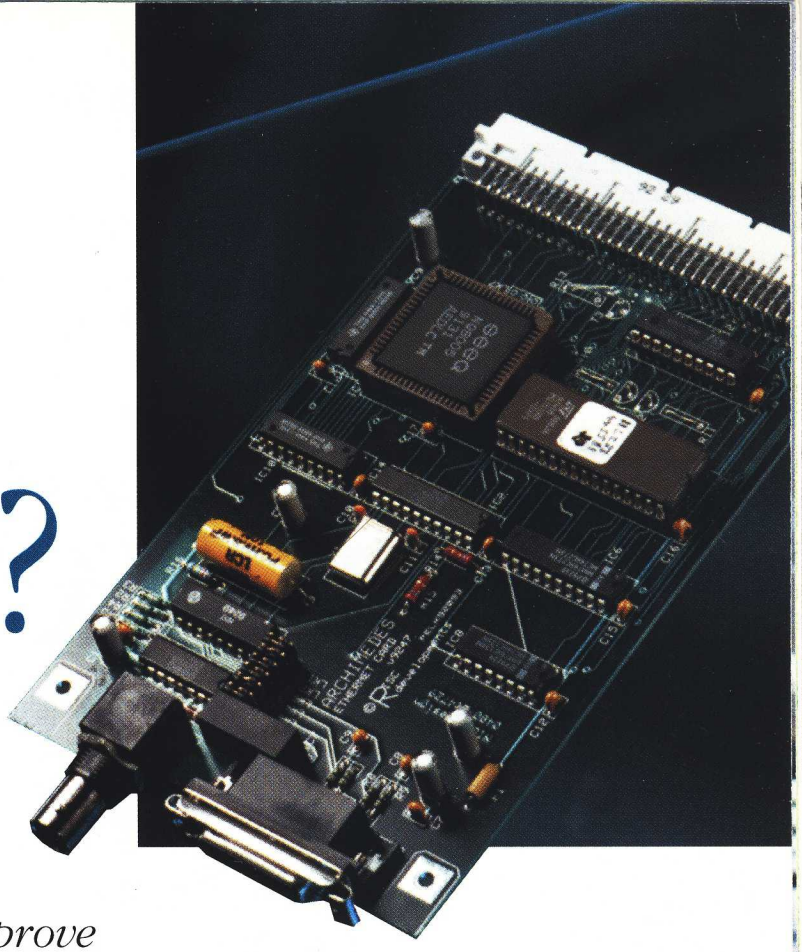
The third option is a Wide Area Network (WAN), such as Internet or e-mail, it is possible for users to share and obtain resources from libraries anywhere in the world. All these resources are obviously available as paper-based information. The difference with networking is that you can access them all without leaving the classroom.

Whole school networks

Good computer networking reflects a school's teaching style and teaching



it for schools?



The ways in which computers are used in schools are as diverse as schools themselves. Yet all schools can use computer networking to improve the learning effectiveness of their pupils

priorities in terms of providing the best possible management of resources for improved learning effectiveness. This means that some schools might prefer to have *clusters* of three to five computers in designated areas throughout the building, while others will choose to place any number of computers in every classroom, not to mention the administrative offices.

But why bother to connect all of these computers? How can networking contribute toward the better management of educational resources and facilitate increased learning achievements among our pupils?

Hard discs versus networks

Firs Farm Primary School in Palmers Green was looking into the possibility of putting a hard disc on each of its computers. "It turned out to be cheaper for us to install networking and have all of the computers obtaining their resources," explains IT co-ordinator Mary Nicholls. "Now when I want to put some new software on the system, I've only got to store it on one machine and it's available on all of them. And we no longer need to be concerned about losing floppy discs."

The staff at Isebrook Special School in Kettering feel that networking has allowed them to deliver a greater range of appropriate software into each classroom. "The unification of machines and printers makes whole school development much easier and more efficient," comments teacher Kevin McHenry. "The network allows pupils to do a piece of work in one room and finish it off later in another. This is particularly important for physically disabled pupils who require a computer for their written work.

"We're looking to add CD-ROM, video and PhotoCD to our network in the near future. These will not only be used to support the curriculum, but also in the reprographic and administrative areas. We'll soon also be using the Internet world-wide network which we feel will contribute greatly to the learning of our pupils."

Centralised management

Steeple Morden School, near Royston in Hertfordshire, has all of its classroom computers on networks. "Networks allow us to centralise the management of our curriculum resources," explains Shelagh MacDonald, Deputy Head at the school. "They also mean that those who are interested in computers and want to spend time and get involved with them can do so, while those who are just interested in the educational aspect can click on the program and they're in. The end result is that computers are being universally used in all of the classrooms, on a regular basis, without the concern of timetables."

Whatever a school's administrative or teaching style, today's educational environment requires the highest possible access to curriculum resources for improved learning effectiveness.

Within schools, computer networks help toward that goal by centralising resource management, economising both time and hardware needed to control or access resources, and providing an increased use of IT throughout the curriculum.

Going beyond the school, the electronic accessing of information through e-mail and the Internet provides resources literally at the pupils' fingertips.

Networking initiatives

1983 The Government announced an initiative to put a computer in every school

1989 The Government updated the initiative, the aim now being to put a computer in every classroom

1992 The Government again updated the initiative, to one computer for every 12 pupils

1995 Time for the Government to be funding schools on to the Net?

Any school which is up to 1989 standards should now be implementing the resource of computer networking for increased learning effectiveness.

Solutions from Acorn

THE new portfolio of Acorn networking solutions includes the blistering high-end connectivity software of OmniClient, the multimedia-friendly Access+, instant access to the mysteries of e-mail, and an even more flexible Level 4 network system.

Acorn offers appropriate and flexible networking solutions which accommodate the wide range of teaching and administrative needs found in today's schools.

Whether you are interested in whole school networking or connecting to the out-of-school world, you'll find that Acorn has an answer.

Get hooked

Your easiest entry point to simple yet efficient networking is via Acorn Access. This complete solution comes with its own network cards and cabling – it's literally a question of plug-in-and-play.

If you want to share the following on a peer-to-peer and/or site-wide basis: hard discs, printers, applications, CD-ROMs – movies and high-quality stills, or to eliminate floppies, you ought to be looking at Acorn Access Release 2. Making the best use of precious multimedia resources is a number one classroom priority. If you want everything that Acorn Access gives you plus simple multimedia sharing, password protection for information on a peer-to-peer and/or site-wide basis, then Access+ is the ideal solution.

Acorn's new Internet products cut straight through to the electronic highway, starting with Acorn InterTalk. So if you want to communicate direct between RISC OS and non-RISC OS machines, send and receive messages

What schools say

Networking has increased the IT confidence of our teachers, which has had a knock-on effect to the children. We chose Acorn Access because it's easy to use. It works and it's brilliant!

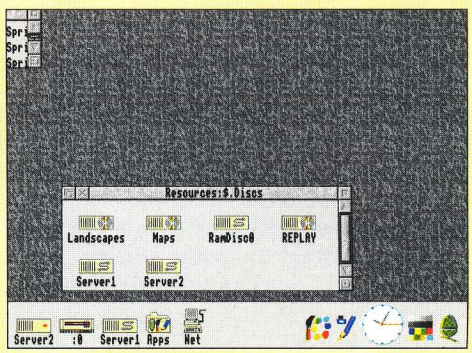
Jane Jones, IT Co-ordinator, Priory Infant School, Cambridge

We're committed to networking. We started off with only one room and it mushroomed from there into eight networks spread over the campus, all using Acorn's Level 4 software. We hope to build on our Acorn Ethernet system, which has proven flexible and well-suited to our school.

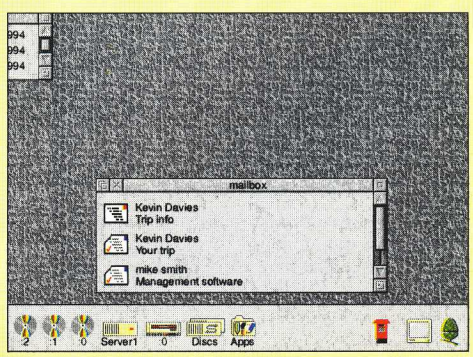
Helen Huggup, Network Manager, Wath Comprehensive School, Rotherham, South Yorkshire

Learning how to use the network plays an important part in understanding how computers are used in everyday life. Internal e-mail from the members of one class to another mimics the distribution of e-mail within large companies. Our Acorn Access+ network is proving very useful in sharing access to the CD-ROM drive and also in sharing the hard drives. When pupils create very large files of text and pictures, and save them on the local hard drive in a specially created and shared Data directory, they can later recall their work very quickly via the Access+ network, even when sitting at another computer.

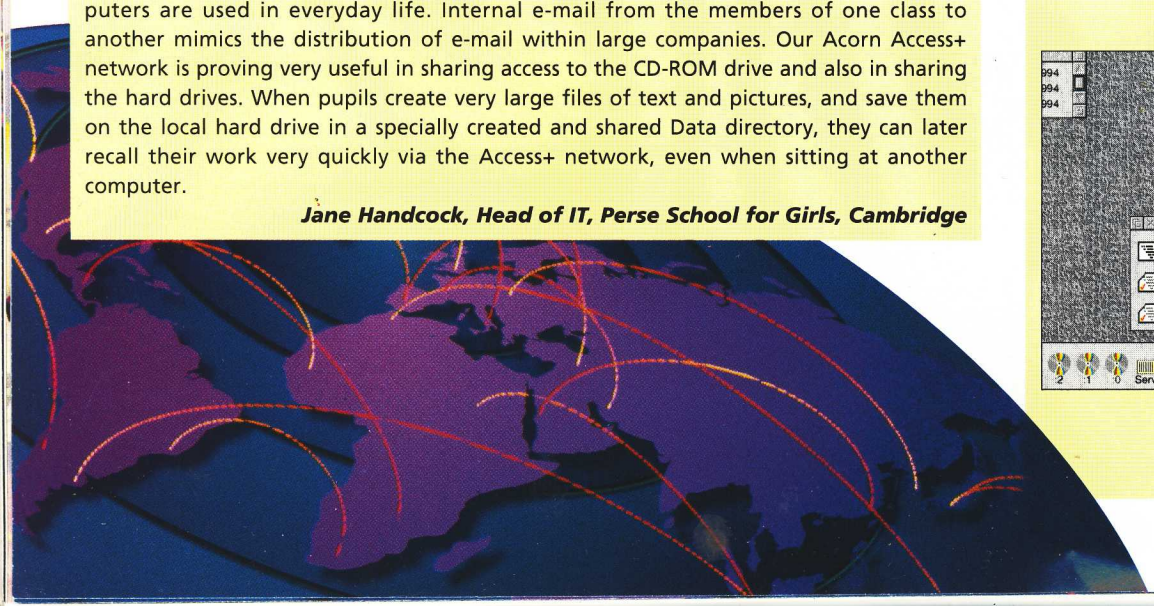
Jane Handcock, Head of IT, Perse School for Girls, Cambridge

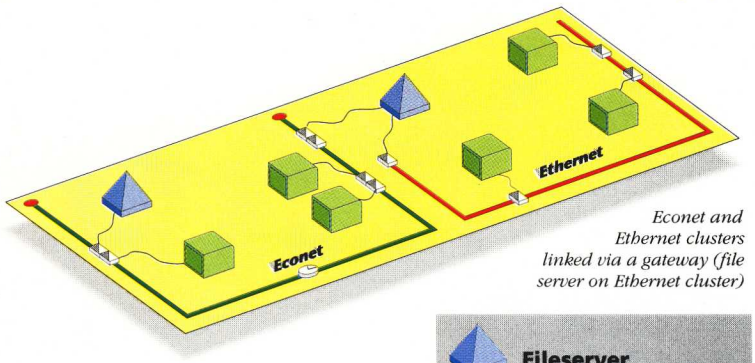


CD-ROMs are catered for and located in the disc window

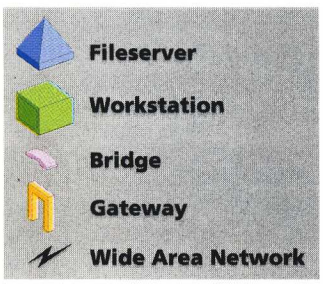


Click on the mailbox – two of the three messages have already been read





Econet and Ethernet clusters linked via a gateway (file server on Ethernet cluster)



Networking definitions

LAN Local Area Network: network contained within one school campus.

WAN Wide Area Network: network connecting school to school, country to country, continent to continent.

There are two basic types of whole school networking:

Peer-to-peer networking
Each computer's hard disc, CD-ROM or printer can be used by any other machine on the network (Access and Access+).

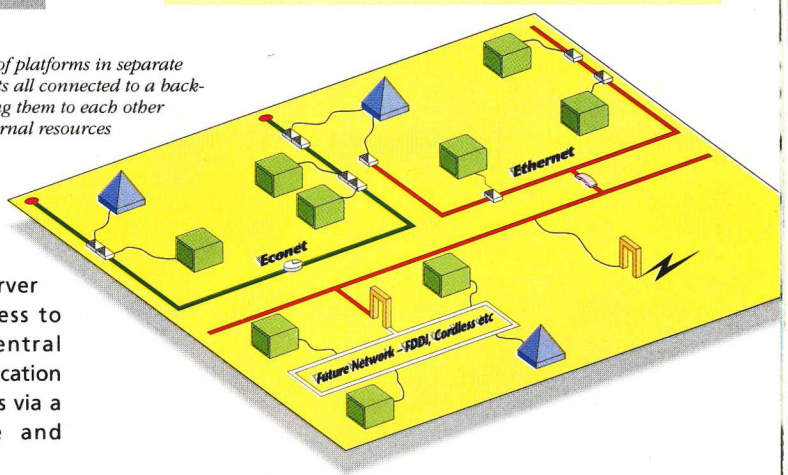
Client-server networking
One central server computer is dedicated to providing disc space and applications for all the other client computers connected to it on the network. Each client machine makes use of the resources on the server (Level 4 and OmniClient).

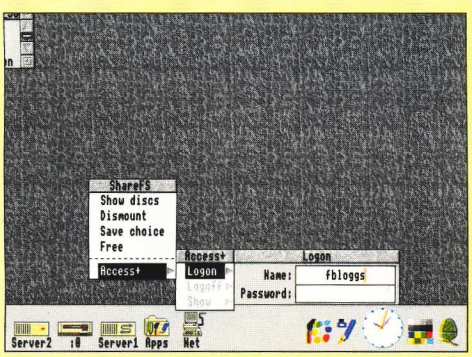
site-wide, communicate with anyone in the world, join a bulletin board, set up your own bulletin board or protect yourself from the dangers of unwanted data, then Acorn InterTalk is the product for you. It will also be updated by Acorn in 1995 to include a World Wide Web browser.

Total connectivity is at the heart of Acorn's brand-new, high-end OmniClient mixed environment networking solution, offering some of the highest levels of connectivity in the industry. If you want to connect RISC OS computers to PC, Unix or Apple stations heterogeneous peer-to-peer workgroups or ensure unrivalled high-end performance, then you're ready for OmniClient.

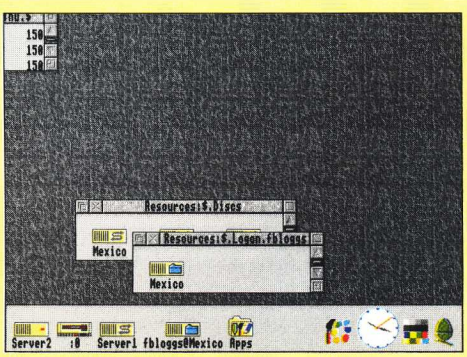
Acorn is upgrading its Level 4 networking operating system to respond to increased demand for flexibility. The new version provides efficient application, and server and printer sharing access to information from a central server, as well as communication with non-RISC OS machines via a standard set interface and updated CD-ROM support.

A number of platforms in separate departments all connected to a backbone linking them to each other and to external resources



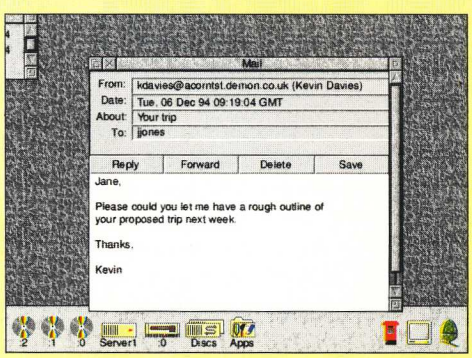


A user or group can log on to private data...

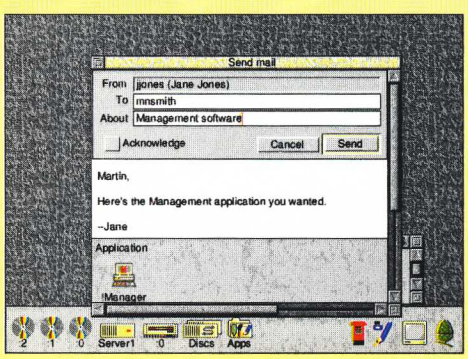


...giving access to a host of resources

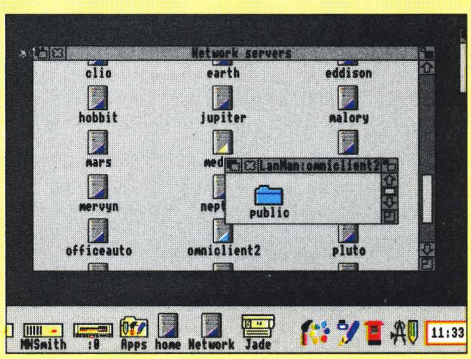
Mail ready and waiting for a client to access it



Access a message and this is what it looks like



Drag what you want to send into the window



Via OmniClient all protocol modules loaded make another range of file servers available

Making

More networks were installed in UK schools in the last two years than during the whole of the previous decade. Paul Richardson, of Plymouth-based Acorn Education Dealer, ExpLAN looks at the practical implications for schools considering a network

EVERY educational site has its own particular requirements. It's the job of your local Acorn Education Dealer to visit your school and advise on the type of hardware and network required. The solution will be based on how you intend to use your network – which is likely to reflect some combination of three basic server functions:

Shared library resources
For instance, applications software, fonts, clip-art held on an *applications server*

File server
Storage of users' files on a central computer

Other servers
Normally shared printing, but also teletext, diary, CD-ROM and database servers and so on.

Off the shelf or tailor-made?

It's perfectly possible for a school to work out its own requirements and buy an off-the-shelf solution.

However, many schools prefer to bring in expert advice in the form of an Acorn Education Dealer who will meet with school staff several months in advance to plan the best network infrastructure to support the school's curriculum requirements and teaching style.

This planned approach is now happening increasingly with primary as well as secondary schools. One such is Beaford County Primary in rural Devon, with four new classrooms and a new network.

For Jeremy Tudge, the IT Co-ordinator, "the benefits of networking in primary education were immediately apparent. It has speeded up the process of learning and has eliminated disc swapping by pupils."

Almost every school will require at least one applications server, each of which may provide resources to many computers.

Most sites also want shared printing across the network but few have been implementing a file server for client data. That's surprising when, in the words of Nelson Perry, IT Co-ordinator at Cheadle Hulme School, a properly installed file server can revolutionise teaching methods. This prestigious public school in Cheshire has had five separate Acorn networks for the last two years.

However, this summer, ExpLAN upgraded the application servers and interlinked the clusters to provide total inter-machine communication. Now all 44 computers can access a new Risc PC file server.

As Nelson Perry puts it, "We started this term by discarding 900 floppy discs of pupils' data." He could do so with confidence, for his file server is set up to provide unattended overnight back up.

That's a far cry from pre-file server days when the only guarantee of preserving your daily changing data was – and for many schools still is – painstaking manual creation of back ups on a daily basis.

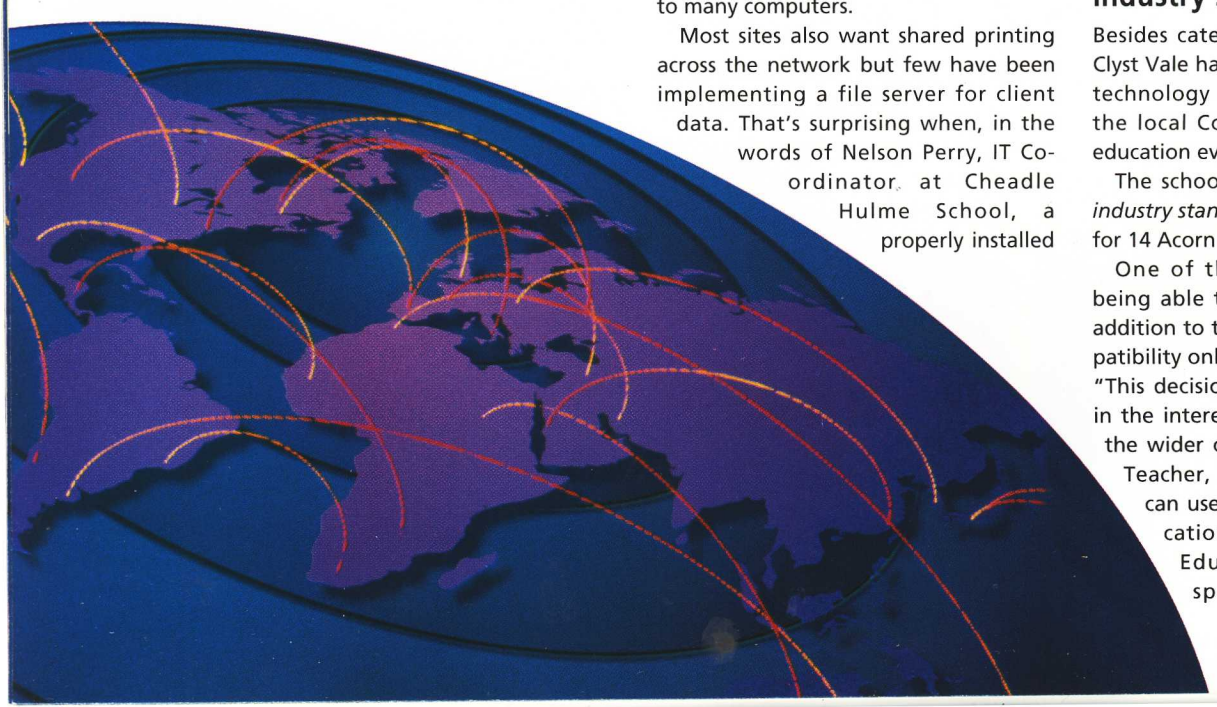
Industry standards

Besides catering for their own pupils, Clyst Vale has recently developed a new technology suite which also supports the local Community College's adult education evening courses.

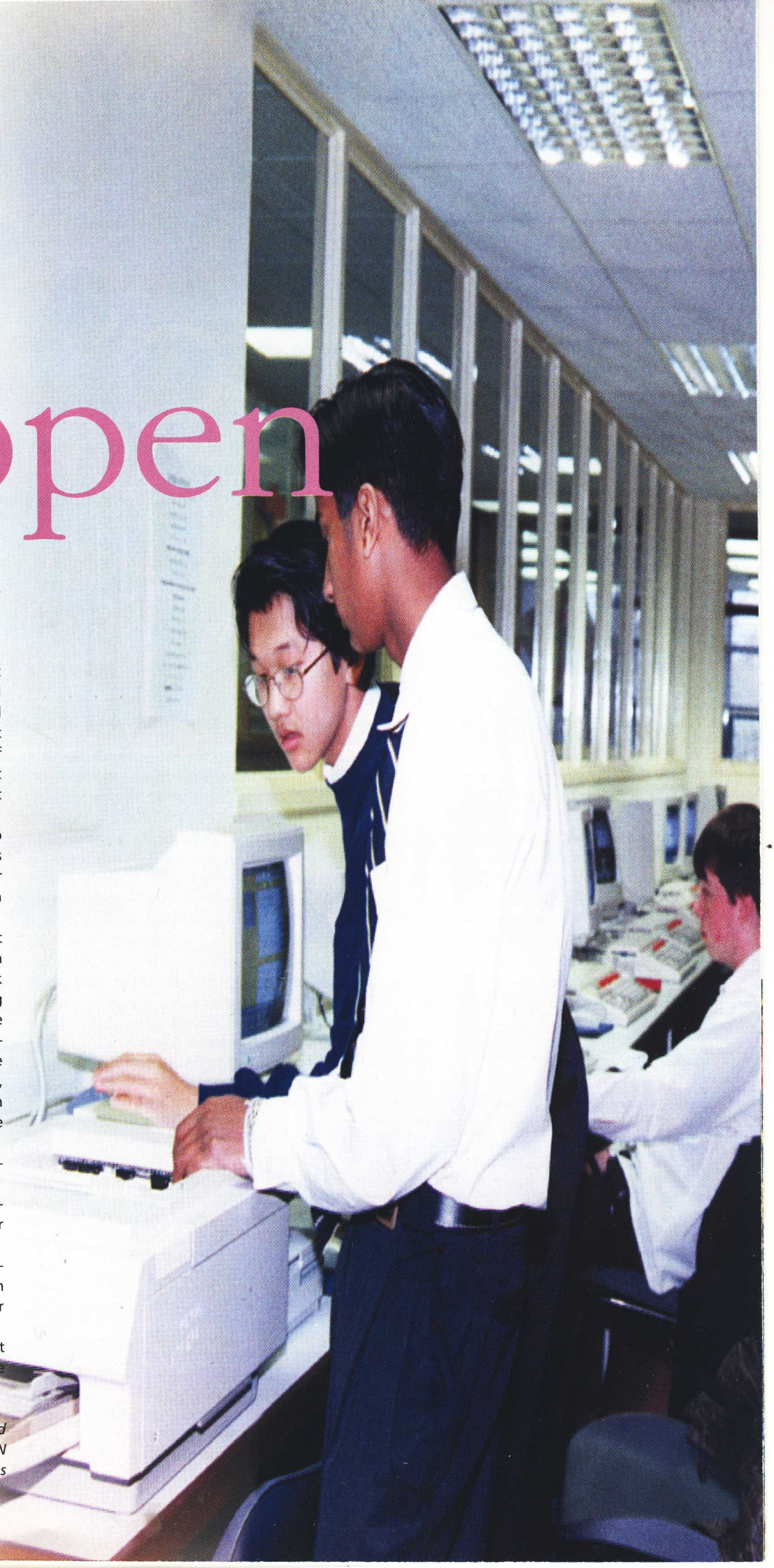
The school governors looked at the *industry standards* and eventually opted for 14 Acorn Risc PCs.

One of the deciding factors was being able to take a 486 processor in addition to the ARM processor. PC compatibility only costing £99 per machine.

"This decision maximises opportunities in the interests of both the school and the wider community," explains Head Teacher, Trevor Green. The IT staff can use the existing range of educational software, while Adult Education canbuy business-specific software,yet both



it happen



are able to access the shared printers across the network.

Shared printing

The choice of printer is critical. At Torells Grant Maintained School in Grays, Essex, ExpLAN has installed both a PostScript laser and a PostScript colour printer. Torells' network of 30 computers is spread throughout a nine room technology department with lots of graphics software.

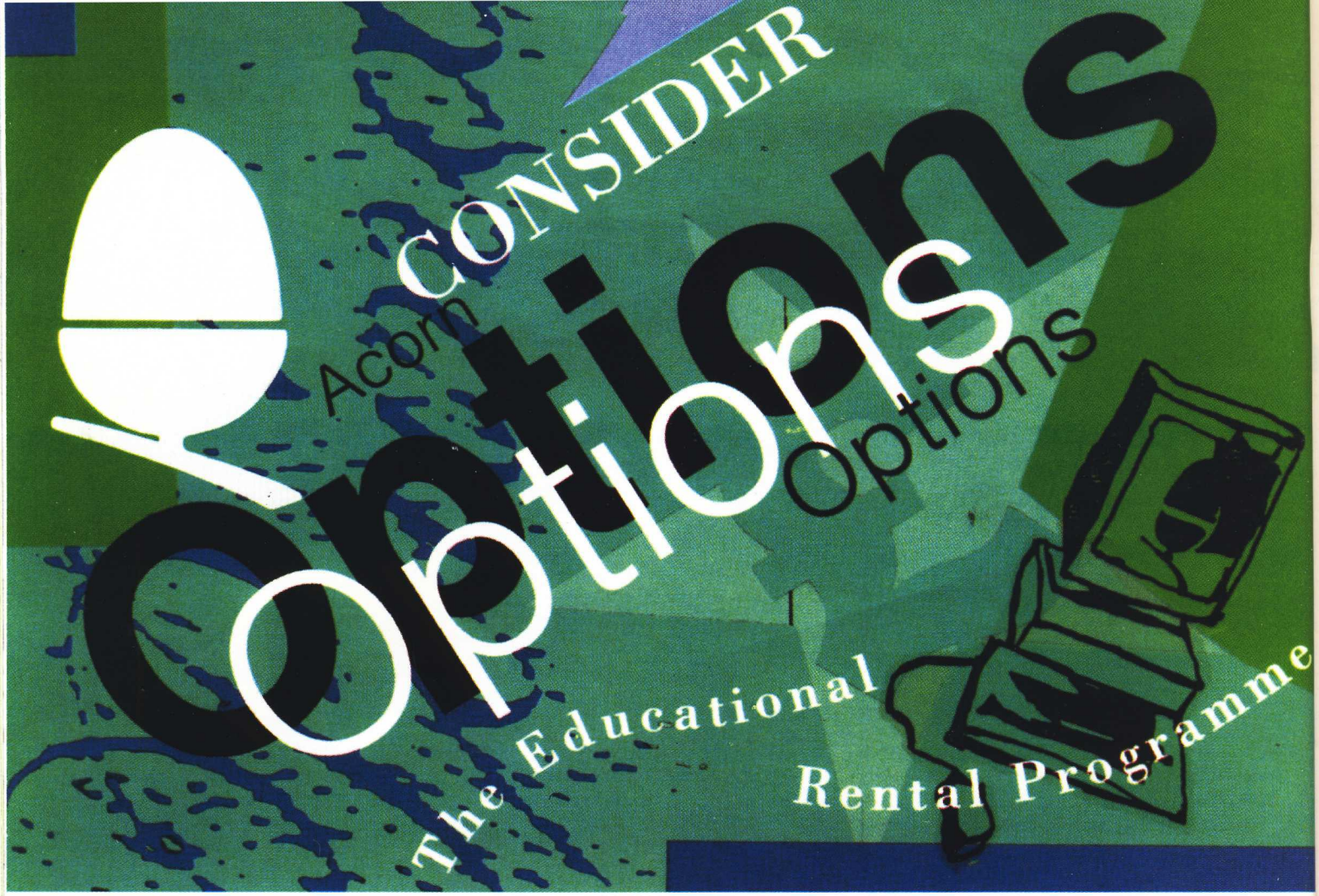
A high priority, according to Peter Ruddick, Head of Technology, was "the ability for each pupil get their printed output by the end of the lesson – not the end of the week".

The amount of data needed to print an A4 page is often underestimated. In schools, the end-of-lesson bottleneck means that most pupils will be sending output to the printers during the same last five minutes. The network bandwidth required is enormous and the choice is between one big, fast printer, or several smaller and slower ones. In most cases a larger printer is preferable and cheaper.

For networking printers, the following guidelines apply:

- Top-end (expensive) printers are generally more reliable, and cheaper per page/minute of throughput required
- PostScript printers require significantly less network bandwidth and can hence increase the computer/printer ratio
- Use network printing software that spools to a hard disc and releases the client machines for the next lesson.

Paul Richardson is a director and network consultant with ExpLAN Computers Limited, one of Acorn's Education Dealers.



Footing the bill

Whether your network budget is £500 or £20,000, or anything in between, you get more for your money – more quality and more performance – from Acorn. Schools should take the time to carefully consider all of the financial alternatives available to them as they plan the increased use of computer-based educational resources throughout their curriculum.

What are the options?

Some schools are able to finance networking resources from their educational budgets. Other schools find their funds wanting but are able to explore possibilities such as using Local Education Authority capital funds to include the major cost of networking in a new building or renovation budget, where new trunking and network cabling can be laid at the same time.

Another possibility is to apply for 1995 GEST funds, which are dedicated to supporting school projects designed to increase learning effectiveness.

To give further assistance to schools, Acorn has introduced ***Acorn Options***, a rental scheme which gives schools a new flexibility in meeting curriculum demands.

Managed by Anglo Direct, a member of the strictly regulated Finance and Leasing Association, Acorn Options can eliminate financial hassle and offer schools real benefits such as:

- Acquiring state-of-the-art networking now, with the ability to upgrade equipment during the rental period as required
- Improving cash flow by spreading the cost of new purchases over three years
- Using revenue budget to take the strain off capital expenditure
- Choice of payment frequency (e.g. monthly, quarterly or annually)
- Providing flexibility with a 'change out' facility which allows the replacement of systems during the rental period
- Receiving the full support of Acorn's Extended On-Site Warranty and support from your local Acorn Dealer
- Inclusion of the costs of consultancy, installation, hardware, software and support all in one contract.

More information on Acorn Options can be obtained by ringing Anglo Direct on 0161 832 6925

Tesco '94 – counting the winners

Over 10,000 schools nationwide started the 1994-5 school year with new computer equipment from Acorn as a result of the Tesco Computers for Schools '94 scheme

MORE than 22,000 items of computer equipment and books were claimed from Acorn and other suppliers, including 4,000 Acorn computers, 6,500 peripherals and 5,300 other general educational items. Computer equipment and learning materials designed for special needs were also popular this year, with more than 4,000 items being ordered.

"This scheme has, for the third year running, proved to be a practical and achievable way of improving access to IT in classrooms, to enhance learning for children of all ages and all abilities," comments Teresa Downey, Special Projects Manger for UK Education at Acorn Computers.

Capabilities for life

Recent Acorn research reveals startling figures on the ratio of children to computers in schools, with over 18 children sharing one computer in the average primary school. The 4,000 new Acorn computers gained through *Computers for Schools `94* will make a significant contribution to the schools' ability to develop children's computer and communications capabilities for life in an IT-rich future.

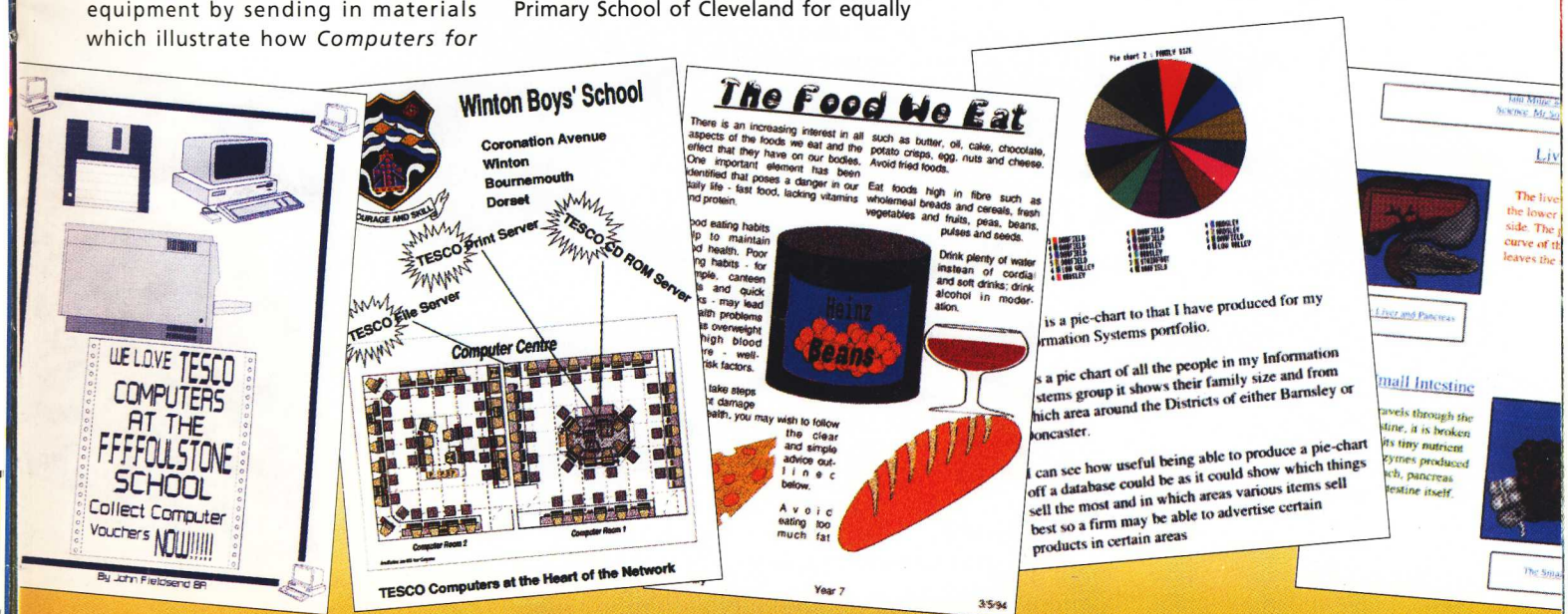
Acorn added a further incentive to the collection of Tesco vouchers – one issued for every £25 spent at Tesco stores – by running a competition for children to win more vouchers toward equipment by sending in materials which illustrate how *Computers for Schools* equipment has already made a big difference to their school.

Designs on success

Out of the 96 schools which took part in the competition, the star prize of 1,000 vouchers was awarded to Mosspits Lane Junior School in Liverpool. They displayed a variety of computer projects from a monthly magazine to computer knitting and computer-aided textile design as part of a larger National Curriculum project.

Runner-up prizes of 500 vouchers were awarded to Brynhyfryd Infants School of Swansea, where children designed wedding dresses, cakes and an order of service, and Lynnfield Primary School of Cleveland for equally intriguing work on the design of houses and their interiors.

All the entries were of an overall high standard. Worthy of an extra honourable mention are the Reception and Infant classes at Fairhouse Infant School, Basildon, who presented *Elmer the Patchwork Elephant* to support their maths curriculum; the Foulstone School, Barnsley produced attractive pie charts for an information systems portfolio and precise colour pictures and text for biology and history assignments; and the Winton Boys' School in Bournemouth where pupils used a CD-ROM to complete homework and projects for history, geography, maths, French and English.



Commu

Arc investigates a project spanning a community multimedia archive and global communication over the Internet

IN the Yorkshire town of Batley, schools have proved the value of IT in community regeneration. It all started in June 1993 at the Artimedia Centre, a training facility described as *multimedia and telematic*, which was established as part of Batley's City Challenge programme of social and economic regeneration. Multimedia is self-explanatory, but *telematic* is a broad definition of the area in which information technology and communications technology meet.

Six months later another City Challenge project, the Batley Project Pack, was established with a brief to "develop materials for Batley school-children to learn about their cultural heritage and the processes of Batley City Challenge". The Artimedia Centre was identified as a suitable base for the project.

Batley Project Pack

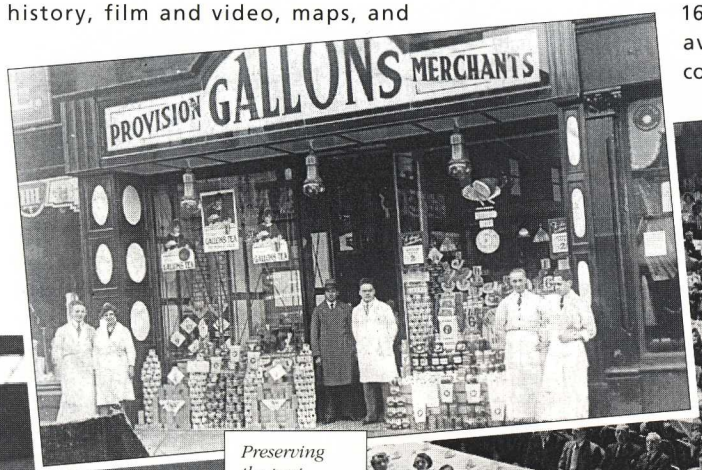
The Pack consists of six distinct elements: text, photographs, oral history, film and video, maps, and models of important local buildings. This meant using local records and newspaper archives dating back to the nineteenth century, an archive of 3,000 images, and oral history, much of which is linked to the photo-archive, in conjunction with broadcast archive material and local cine and video club resources, maps from 1610, and models of buildings available as templates for colouring, cutting, folding and sticking to produce three-dimensional models.

All this material has also been made available as a software-based multimedia community archive, using Longman Logotron's Magpie.

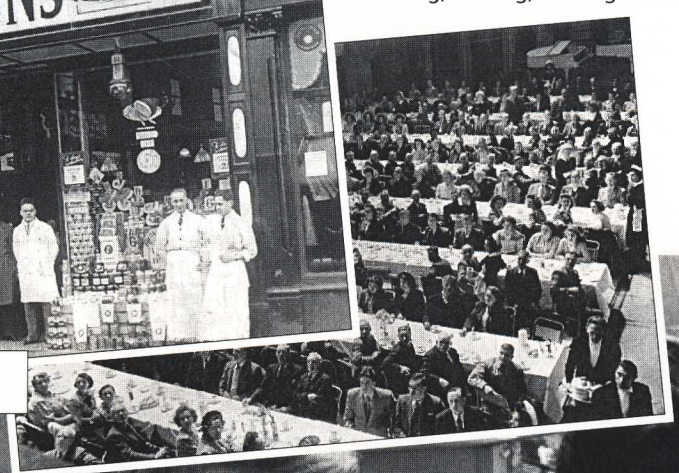
Going on-line

The E-Mail Project developed out of the Project Pack as a means of linking the development of cultural heritage materials to the processes of Batley City Challenge. A key aspect of the City Challenge regeneration process is the promotion of skills and employment in the area of new technologies, including e-mail.

There are two distinct aspects to this project. The first is the use of e-mail as a means of building and accessing text



Preserving the past



Preparing the archive

unity IT

databases – primarily concerned with the local archive resources collected for the Project Pack.

The second and equally exciting aspect of the project is to allow children in Batley to explore the world beyond the town's boundaries: to use their growing knowledge of their own community and culture to compare and contrast it with other communities around the world through the Internet.

There are 16 schools taking part in the project, and Batley has become the first town in the UK to have all its schools linked to the Internet. The initial contacts that schools made were between each other and were mainly short messages. But a number of schools have now moved beyond the local and are starting to develop global links.

Crossing the world

In particular, there are two specific e-mail projects that are currently being developed.

One is the Batley/Tristan da Cunha link that AT&T – the multinational telecommunications company – are considering sponsoring. This builds on an extraordinary event at the beginning of this century, when in 1908 Batley school-children sent the first ever consignment of Christmas toys to the children on the island, reputedly the most remote island in the world.

The proposal aims to re-establish this historic link with Batley schools and a school on the island, St Mary's, through an e-mail link. The project already has the approval of the island council and the Foreign and Commonwealth Office.

One other project is the involvement of all the Batley schools in the BT Global Challenge Project. This is a BT sponsored project whereby schools *adopt* a crew member from one of the yachts taking part in the Round the World Yacht Race and monitor their progress via e-mail links.

Other global links that have already been made include Greece, Germany, Holland, USA, Iceland, New Zealand, Japan, Israel and Finland. Given that there are 30 million e-mail users worldwide, growing at a rate of 10 per cent per month, it can be safely assumed that further links will be established in the future.

Community strength

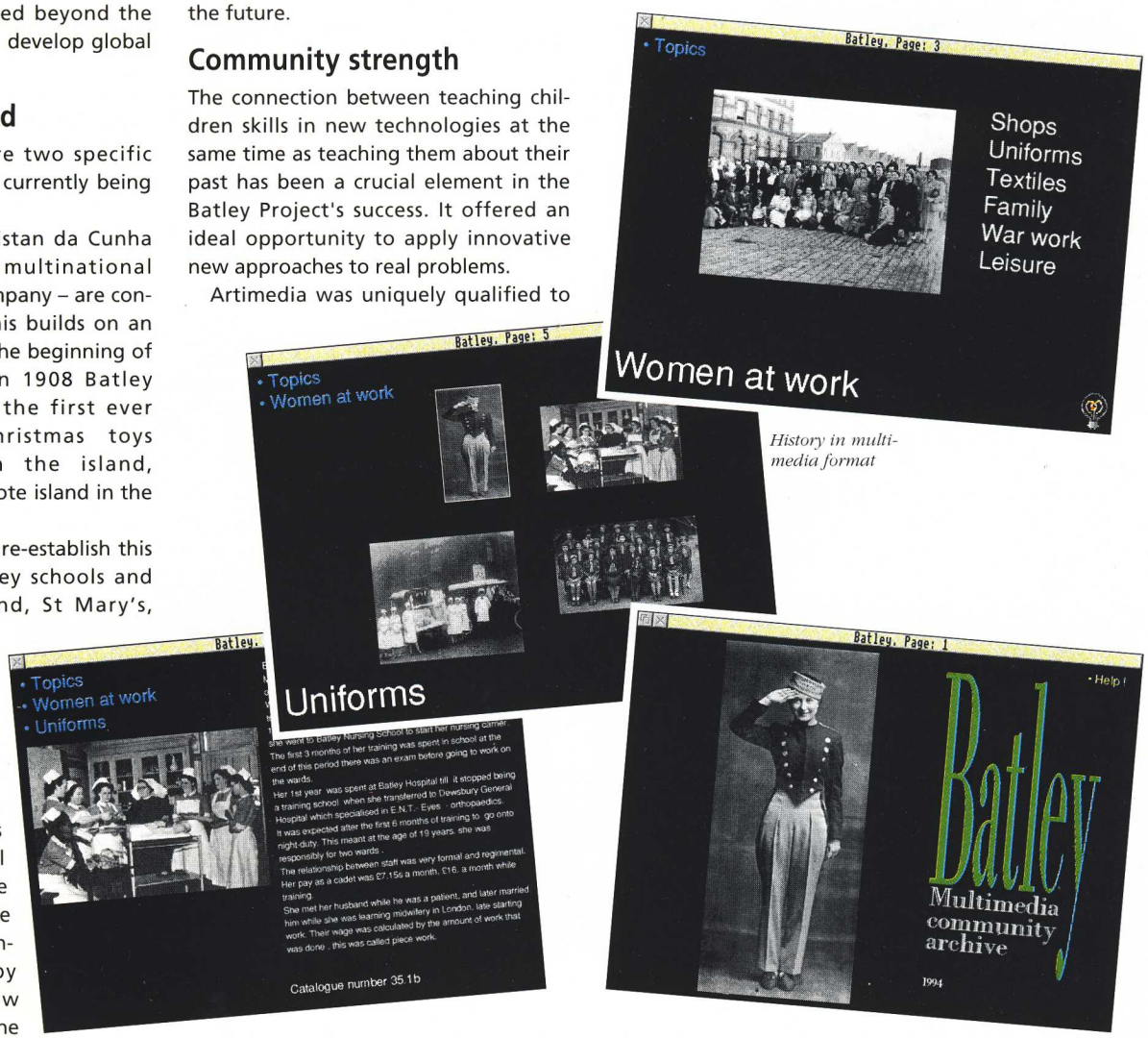
The connection between teaching children skills in new technologies at the same time as teaching them about their past has been a crucial element in the Batley Project's success. It offered an ideal opportunity to apply innovative new approaches to real problems.

Artimedia was uniquely qualified to offer solutions at the cutting edge of technology in areas of relevance to the Project Pack. The financial support for the additional projects from Batley City Challenge has enabled them to be implemented quickly and successfully, and did not involve the lengthy bureaucratic procedures normally associated with the introduction of innovations in education.

The timing for developments in the areas of multimedia and telematics has never been better. It is difficult to open a newspaper or magazine without coming across some mention of the *information superhighway*. At the same time, local authorities and others have found it difficult to respond to the rapid changes in both the technology and its applications. Artimedia and the Batley Project Pack represent a unique combination of factors *in the right place at the right time.*

It's a classic example of the innovative and creative approaches being used to address real issues with real people in a practical and deliverable form in schools today.

● For further information contact Chris Levack via e-mail:
BATLEY-PROJECT @GEO2.Poptel.org.uk



History in multimedia format

Net gains

Geoff Preston is Head of IT at Highgate Wood School where he manages a 90 station Acorn network with computer stations in 12 rooms and 5 departments. He assesses the benefits of such a system

THE cost of installing a computer network in a single room is likely to be a large slice of any school budget. This leaves some people wondering if there really are any benefits to be gained, and if the benefits are worth the outlay.

The introduction of a network will provide benefits in three main areas. In isolation each does not, in my opinion, provide a sound reason for choosing this IT solution, but together they form a powerful argument in favour of linking the standalone computers to form a local area network (LAN).

Program bank

Shared software is the most obvious advantage, although in some ways the least important. Place one copy of the software on a central computer, provide easy – but well-protected – access to it and life becomes much easier for all concerned. Only one version of the software will need upgrading, all students will have full access to it, it's less likely to become corrupted and there will be no disc-swapping. High-value software such as CD-ROMs can be shared by several students, thus making the software even more cost-effective.

However, it's not just software which can be shared, but all resources. Printing is an obvious example, but there are many others. Install a teletext receiver card in one computer, provide network server software for it and all students will have access to huge amounts of live data. Add a satellite dish and everyone on the network can be making use of it.

Places to work

This feature only becomes apparent when the network extends beyond a single room and this is a benefit we at Highgate Wood School are only just beginning to appreciate fully. Students can get tuition and may begin a piece of work under my supervision. Once started, the students can then save their work and move to a different part of the school to continue their work and perhaps have additional input from an expert from another curriculum area.

Meanwhile, the computer they vacated can be occupied by another student wishing to draw on my expertise.

The alternative to this is allowing students to transport their work on floppy discs. However, this scenario is fraught with problems, not least of which is that the disc could be damaged and the work lost.

Inter-computer communication

As soon as communication is mentioned, a picture is conjured up about silly messages being sent between students sitting only a few feet apart. This is the negative side and one which thankfully can be controlled. I feel communication is potentially the most exciting area of networking as – unlike the previous two features – it relies very much on the inherent nature of network-linked computers.

Along with sharing of resources, internal e-mail, bulletin boards and conferencing are now all possible. More and more *network aware* software is being developed, enabling students to contribute to a piece of group work rather than to be wholly responsible for it.

At this point, the only limiting factor is one's own imagination.

Net reference

Geoff Preston has recently published a book – Network Acorn. This is a complete guide to building, developing and maintaining an Acorn Ethernet network. Published by SEMERC (0161-627 4469), it is priced at £12.

The virtual classroom

Bruce Dickson discusses the potential of e-mail in the classroom

E-MAIL is one of the normal activities of the Computer Club at Mill Hill School as well as being available to all students in an open computer room, where staff can oversee the tone and duration of on-line contacts.

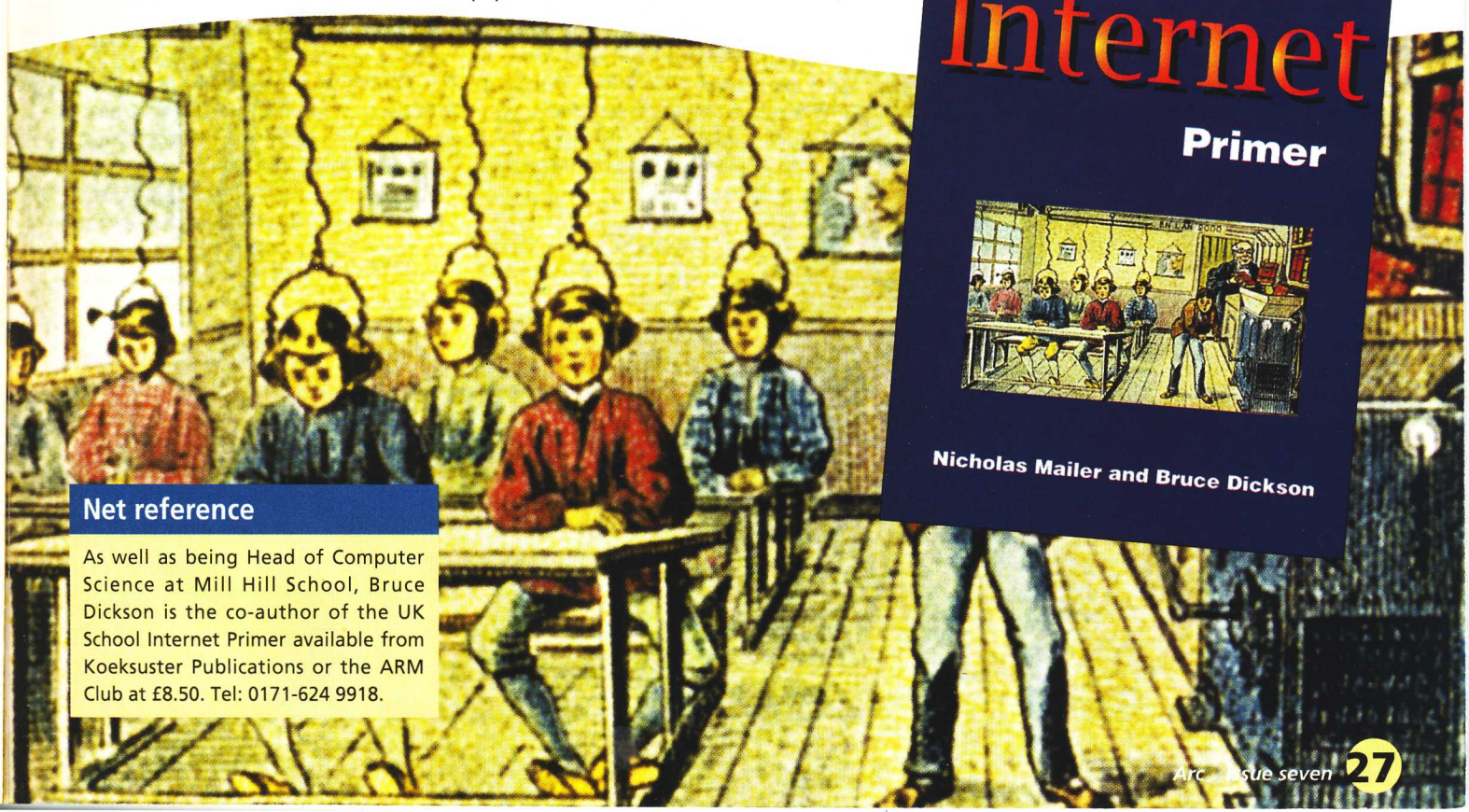
Pupils use e-mail to communicate with *pen-pals* and *pen-classes* around the world. Current official projects supporting the curriculum include:

- Measuring distance to the sun by simultaneous measurement of shadow lengths on different continents
- Comparing contemporary attitudes to the American War of Independence in the USA and UK, with a view toward analysing the causes of conflict and the need for constructive revisionism
- The writing of a book entitled *A New Computer Science Course for Open Learners* which aims to give pupils with RISC OS machines access to a technical computing education that will bridge the gap between information handling and machine codes
- Collecting computer games that involve learning skills for our Russian Orphans Support Group, which installs the gathered materials in Moscow and St Petersburg orphanages
- Keeping in touch with the off-school professional computer clubs

Non-threatening

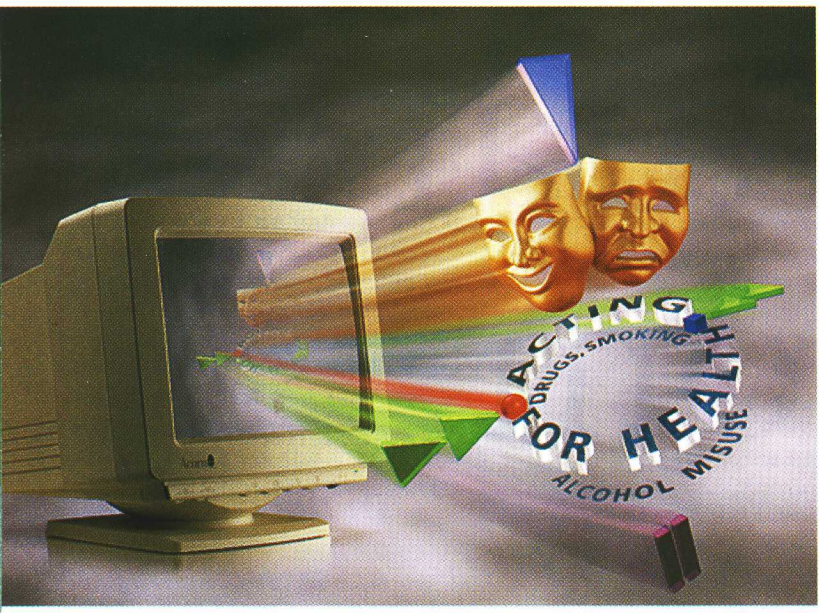
Our pupils receive a variety of benefits from their use of e-mail. The technology is not threatening to any pupil and only permanent items need printing on paper. The results are instantaneous or, at worst, next day, allowing for different time zones. Etiquette is learned quickly, as overstepping the boundaries of good manners can cause all sorts of negative reactions in the stressed recipient. *Smileys* :-) are vital, though I prefer the big-eyed 8-) type myself.

The thought of instant electronic worldwide publishing is quite inspiring to students, as is that of using the world's largest computer system. An open Internet connection is, in my view, the most significant advance towards open learning and distance learning since the invention of the transistor.



Net reference

As well as being Head of Computer Science at Mill Hill School, Bruce Dickson is the co-author of the UK School Internet Primer available from Koeksuster Publications or the ARM Club at £8.50. Tel: 0171-624 9918.



Stupid

Arc reviews the recent winners in the Government's bi-annual Acting for Health Competition

THOUSANDS of pupils across Britain participated in the year-long Department of Health competition, Acting for Health – Drugs, Smoking and Alcohol Misuse. But only 120 children from 12 schools made it through to the award celebrations at Planet Hollywood in London, hosted by John Leslie, recently of Blue Peter.

Storyboards

Schools were asked to submit a story board for a short video aiming to raise awareness of the effects that drug misuse can have on an individual, the family or community, and to promote discussion about the benefits of not misusing substances. Over 2,000 entries were received and subsequently judged on originality, creativity and success in communicating these issues.

In the next stage of the competition 96 shortlisted entrants visited a *Superchoice Adventure Centre*, either in Dorset or in Lancashire, where instructors showed the pupils how to use Acorn computers to produce an animated sequence at the front or end of their film. During the course of the weekend they also had an opportunity to talk about how to physically make the films with a broadcasting company.

Broadcast quality

"Essentially this is a Department of Health campaign with two sponsors," explains Lloyd Smith, who organised the Superchoice Film Makers' Weekends. "Acorn Computers has provided the kit and we've provided facilities both in the north and south of England where the kids have actually made the films."

From these films, three winners were chosen in each of four categories. A film crew was then brought in to assist the top five winners in developing professional videos which were premiered during the awards ceremony and simultaneously broadcast on Nynex Cable television all across the country.

Risc PC

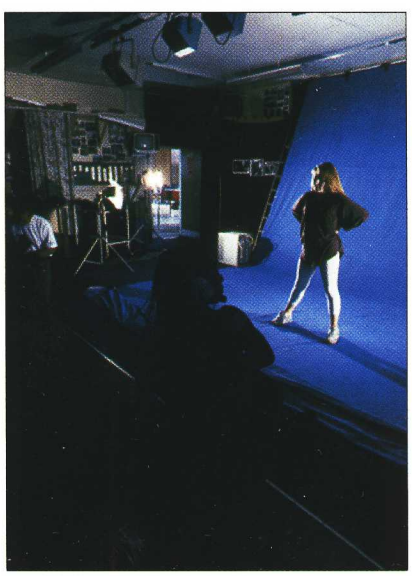
Along with Oscar-style awards for their school trophy cases, Acorn provided each of the winning schools with a state-of-the-art Risc PC multimedia computer system with a built-in CD-ROM drive, a set of speakers, animation and multimedia project development software, a selection of CD-ROM discs and two days training in an Acorn multimedia workshop.

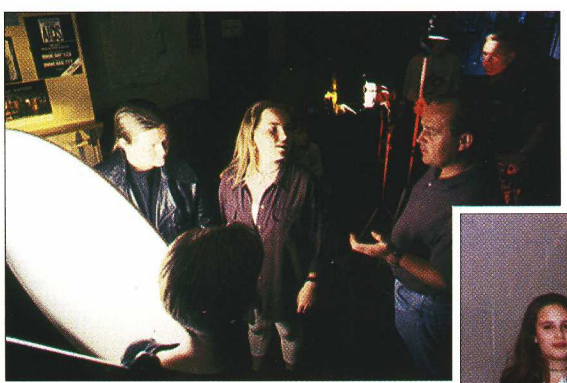
Top prize winners also received video editing, multimedia authoring and presentation software, Acorn's advanced integrated business applications, additional CD-ROM discs and an extra place at the two-day training workshop.

The highlight of the day undoubtedly the was screening of the first-place videos which represented the best examples in quality of thinking, originality and the enthusiasm with which the children responded to this competition.

Cartoon brainchild

First screened was *Stupid Ciggy*, top entry in the Special Schools category from The Netherhall School, Cambridge.

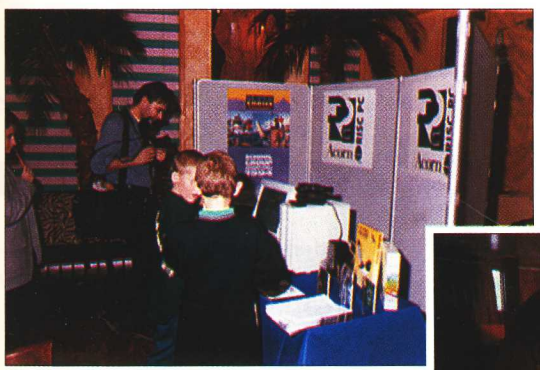




Superchoice Film Makers' Weekends helped bring the story boards to life

Success and a visit to Planet Hollywood

ciggy & demon drink



Premiered at Planet Hollywood

Learning the techniques...

Ciggy is the brainchild of dyslexic pupil Niall Jackson, who used his winking cartoon cigarette character to support some serious messages about smoking.

"I made it a cartoon so that it will appeal to little children, so they will get the message now and won't smoke when they're older," explains Niall. "The animation would have been difficult to do with pencil and paper, but it was easy on our Acorn computer. The competition helped me to learn about computers, like how to use drawing programs on the images we've got at school, which is brilliant."

Other prize winners include *The Demon Drink* from St Chad's RC School, Bishop Auckland, *Take a Look Inside* from The Wyvern School, Eastleigh, *Don't Toy With Us* from Waverley Girls' School in Peckham, and *Game of Life* from Rotherham's Maltby Comprehensive School.

Multimedia collaboration

As in other schools, the girls at Waverley were able to use their teamwork experience to support a wide range of the curriculum, including *arts and media services* work for a Diploma of Vocational Education. "The DVE is something they take to try to give them different skills for when they go out to work," says teacher Karen Mares. "That's why the collaborative learning and the flexible learning approach using multimedia is so important."

The Year 10 pupils at Maltby School created *Game of Life* solely with the use of school computer equipment, which isn't surprising given that the video depicts a young girl sucked into an arcade games machine, finding herself enticed and then chased by cigarettes at level one, pints of beer in level two, a syringe, tablets and *cold turkey* in level three.

Pupil Ruth Taylor also used a computer to add her original pop music composition to the film. "We decided to put a games machine together with a pop music background to try to get the message across in a powerful way so that our peers wouldn't feel like it was being dictated to them by parents or teachers."

Chris Grindle – the pupil responsible for most of the computer animations – added: "At the end of the video, the girl has to make a decision. She has two doors, life and death and she has actually got the choice whether she lives or not."

Peter Talbot, Acorn's UK Education Manager said: "This competition has encouraged young people and students throughout England to think seriously about the consequences of substance abuse, and has helped them to realise that their future is in their own hands.

"Acorn, as the main sponsor of the 1994 initiative, has been delighted to be involved in such a worthwhile and fun project. We hope to find many more opportunities to put these film-making skills to good use in the future."

...with a professional broadcast company

Using the resour

Arc takes an in-depth look at what the Acorn in Education Centres have to give to schools

THE Acorn in Education Initiative was set up in 1992 to help provide curriculum IT support and an understanding of the value of educational IT in schools. Since then the Initiative has continued to develop, and has now established 59 centres in the UK.

Each of the Acorn in Education Centres provides a range of basic services which include a help line for schools to resolve day-to-day queries, in-service IT training and a RISC OS software reference library containing software to support all areas of the curriculum.

In addition, new Acorn computer systems and networks appear in the centres as soon as products appear, giving teachers the chance to explore new equipment and keep their school's resourcing plans fully up-to-date.

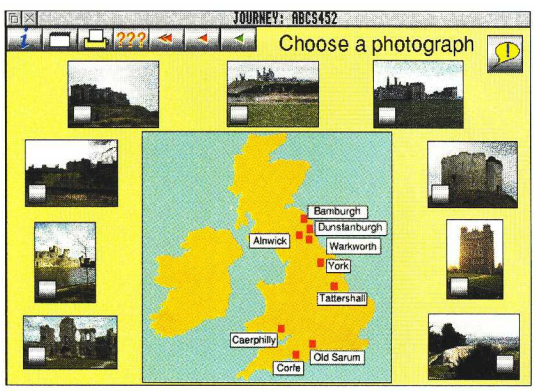
AECs also independently instigate a variety of innovative projects designed to benefit Acorn users both locally and nationally. *Arc* is pleased to take this opportunity to applaud some of the worthwhile contributions that have surfaced through this network of consolidated Acorn knowledge and expertise.

Jersey Professional Development Centre

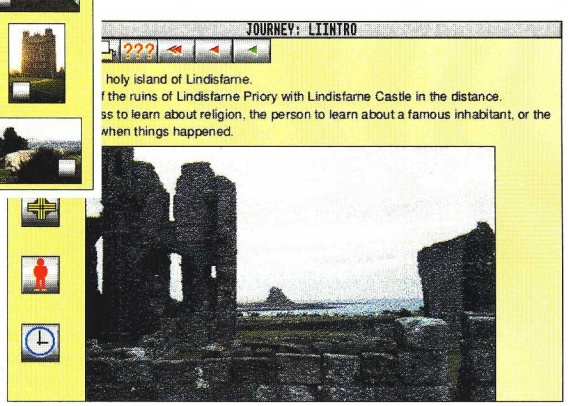
An Archimedes User Group has been set up for parents who use Acorn computers at home. Meeting monthly at one of the local schools provides an opportunity for users to meet one another, as well as to keep up-to-date with the latest hardware/software releases, and to give and receive tips on making the most effective use of their Acorn machines.

"Basically, a lot of parents have gone out and bought Acorn machines because the children use them at school," reports Bob Bassford, Jersey Advisor for IT. "It's easy for them to feel isolated without some sort of IT support. Whereas teachers have courses that allow them to see different uses of the machines, the parents need a place to meet one another, share ideas about supporting their children's education and learn more about how to use their Acorn machines at home."

To date the meetings have covered topics such as desktop publishing, using Edit, Draw or Paint, video digitising and scanning, CD-ROMs, spreadsheets, music and computer-aided design.



Journey into history...



...courtesy of Durham's AEC

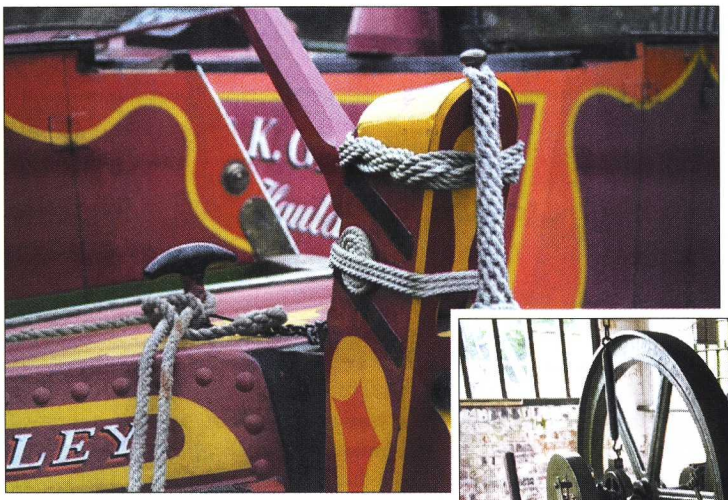
Education and Microtechnology Unit, Oldbury, West Midlands

A number of primary and secondary schools near Oldbury have recently invested in A5000 computers with multimedia expansion units that could read Photo CD. Mike Smith, Head of the AEC, felt that there was no disc that addressed the particular area of the curriculum he was interested in, and decided to cut one of his own for the West Midlands students.

The result of his initiative is a Kodak Photo CD of the Black Country Museum, visited by 80,000 school children each year. "This is a sound educational application of Photo CD," explains Smith. "Pupils writing reports on their visit to the museum can drop these images into their text or create a multimedia report on what they saw. It's also a resource bank for work like the study of Victorian Britain for Key Stage 2 History."

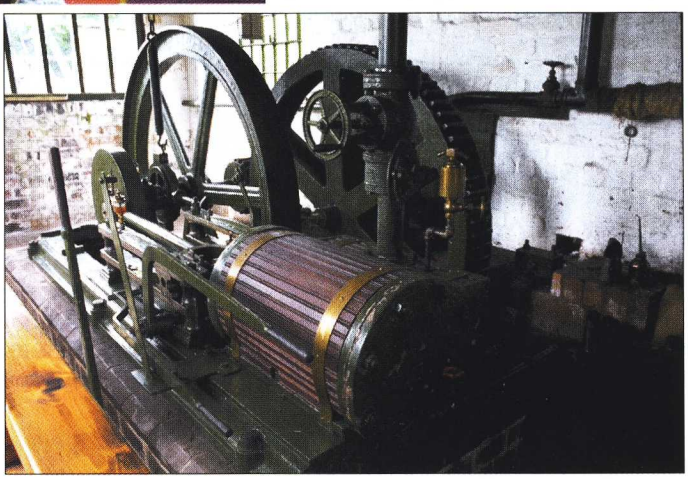
Technology Curriculum Support Centre, Bury, Lancashire

Barry Flint, Consultant for Technology at the Bury AEC, recently received an award from the Times Educational Supplement and National Association for Special Educational Needs for his Acorn computer software package My World 2 – Dinosaurs. "The majority of children are fascinated by dinosaurs, so it seemed to be an interesting vehicle to interest children in number work," comments Flint. "We ended up with a



Canals were an important part of West Midlands life

rces



Access professional resources at any time

very diverse package supporting Key Stages 1-3, particularly in the areas of maths, spatial awareness and archaeology."

Durham Microtechnology Centre, Durham

Durham's AEC felt that there was a need for local school-children to have access to resources not immediately available to them in the classroom. The result is Journeys into History, an Acorn CD-ROM multimedia package which allows pupils and teachers to investigate history by going on a number of journeys to historical sites like Lindisfarne and Hadrian's Wall, while making notes, printing pages or saving resources to disc for later use.

"This CD-ROM gives pupils in-school access to resources that they would normally only be able to view under glass or in a reference library," explains David Raymond, Advisory Support Teacher and co-author of the package. "It's also a vehicle for teachers to put together their own worksheets, document files or class presentations."

The Babbage Centre, Dartington, Devon

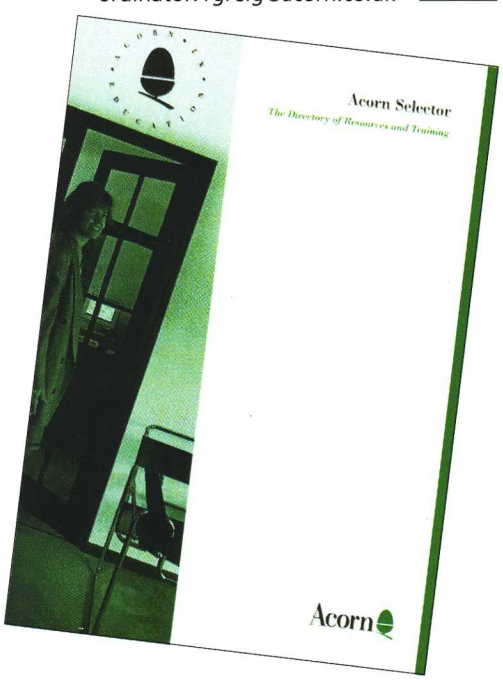
Noting that the electronic images on CDs available to schools are usually of poor quality, David Cowell, AEC co-manager and professional photographer, has produced a set of images for schools which are of a high quality and curriculum orientated. "I had about 5,000 teaching slides and decided it would be a good idea to divide them into ten curriculum areas and release them to schools on CD," says Cowell.

"We also offer a scanner service where the children can bring in photos and we put them on to disc so that small schools can have high-quality imaging on floppy discs. There are 150 Ion cameras in Devon schools, so this service is increasingly in demand. We also do hard copy printouts of children's work, all for a very reasonable fee."

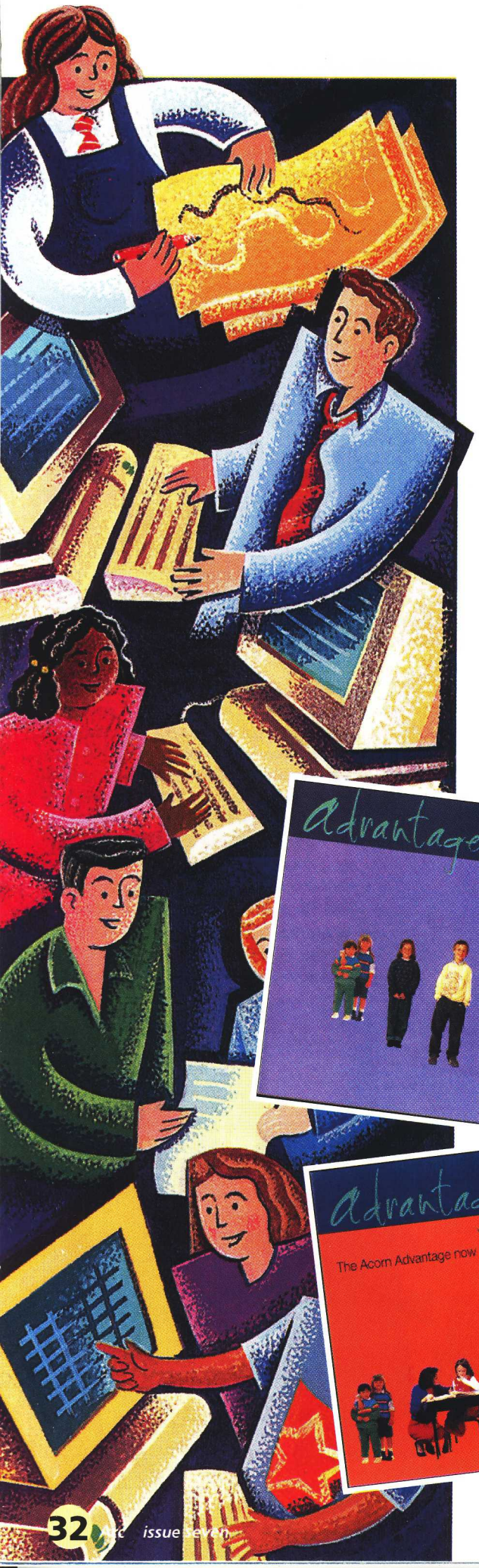
Time to investigate

It's obvious from these examples that Acorn in Education Centres have a great deal to offer to schools, teachers, pupils and parents. Make sure that you know what exciting things are happening at the AEC closest to you – and if you have time, share your discovery with other *Arc* readers by letting us know too.

● To receive a free copy of *Acorn Selector, the Directory of Resources and Training* for all UK AECs, please use the enclosed reply card, or send an electronic message to the AEC Co-ordinator: *rgreig@acorn.co.uk*



Taking A



TO aid parents and schools in their quest for the most recent and highest quality of educational resources for children growing up in the age of the information superhighway, Acorn developed Acorn Advantage. The name says it all. This scheme is designed to bring Advantage to both the school community and the family at home.

Every time a registered school, college or university within the UK purchases Acorn hardware, that educational establishment will be awarded Advantage Points. These points can be collected, and from January 1995 can be redeemed against a broad range of educational resources listed in the Advantage Portfolio.

Nominated schools

When families choose to purchase Acorn computers and software in order to support their children's education in the home, they can also nominate a school to receive an extra 500 Advantage Points. Acorn has prepared a leaflet for schools to pass on to families to explain the scheme, to help them understand the make-up of a good home educational system and to show them how schools can also profit from their purchases.

Teachers can also benefit from Acorn Advantage through discounts on a range of educational conferences, exhibitions and seminars; by receiving specially commissioned reports on major current issues facing education and IT; and through attractive training offers.

Schools which register for Acorn Advantage will be sent the Advantage Membership Pack, including a membership card and the Advantage Portfolio describing all the benefits the school can enjoy.

Inside the Advantage Portfolio

The portfolio begins by explaining the number of Advantage Points that can be earned for the purchase of various Acorn hardware. For example, 750 points earned for an A4000 and 1,200 points for a Risc PC 600 with 5MB HD210.

It then moves on to give a detailed description of the various resources which make the collection of Acorn Advantage Points a bonus for any school desiring the best in educational computing for its pupils. The list of 96 items available through the scheme reveals a broad range of products which

Advantage

Acorn has extended its innovative partnership programme to benefit both schools and families

can be earned for anything from 100 to 50,000 Advantage Points.

Though there isn't room in *Arc* to list all of the *advantages* for schools, the following is a partial list of redeemable items that should whet the appetite of any IT enthusiast:

Software

- The Horizon Project CD-ROM and Book Containing more than 70 applications created during a major education research project undertaken in over 40 Hampshire schools.
  600 points
- Acorn Plotter
  Graphic plotting application for the Pocket Book, designed to meet all curriculum needs for Maths and Science Key Stages 3 and 4 and onwards.
  1,500 points
- Discovery
  Versatile software which supports the primary curriculum, including an Introduction to Discovery, Acorn Advance, Magpie, The Crystal Rainforest and Crystal Logo.
  5,000 points

Training

- Multimedia Workshop
  Learn to integrate graphics, text, animation, sound and video; designing a multimedia package for training, presentation, or information retrieval.
  12,000 points
- DTP Design
  Use desktop publishing to design and originate professional looking and effective documents.
  12,500 points

Audiovisual

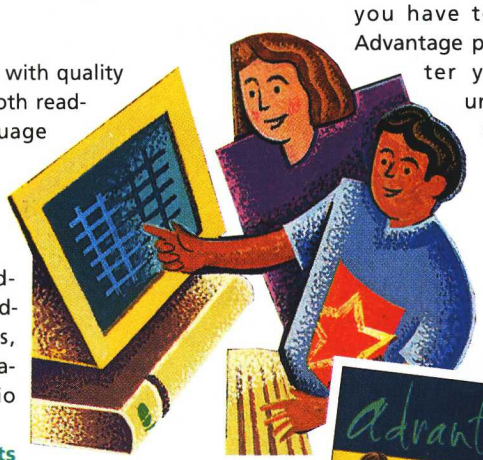
- Panasonic Answerphone
  Call screening, variable outgoing message, remote interrogation, memo message.
  6,400 points
- Ricoh RZ-900 Zoom Camera
  Fully automatic 35mm, autofocus lens shutter camera.
  16,500 points
- Samsung Fax Machine
  BT approved, copy facility, auto switching.
  35,000 points

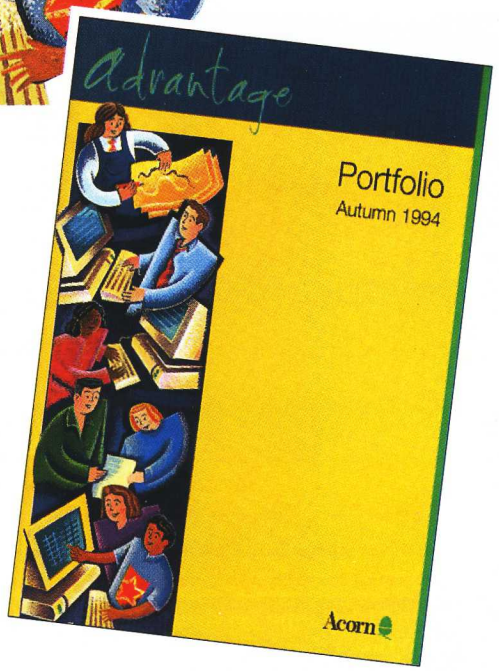
Books

- New Way
  Phonics-based scheme with quality stories, catering for both reading and overall language development.
  150-200 points per book
- Story Chest
  Comprehensive reading programme providing stories, poems, rhymes, plays, information books and audio cassettes.
  100-200 points per book

Computer Peripherals

- Acorn Pocket Book A-Link
  Link cable and support software that provide an easy means to transfer text and data files between Acorn 32-bit computers and the Acorn Pocket Book.
  2,800 points
- Acorn Access
  A hardware and software package which provides simple entry level peer-to-peer networking with disc and printer sharing for Acorn RISC OS 3.1 machines. Each pack includes an Ethernet Card, 3.5in disc with supporting software facilities, two 2m drop leads, T-adaptor, In-line adaptor, Terminator, manual and installation guide. One Acorn Access Pack is needed for each computer.
  A3000 9,200 points
  A5000 9,400 points
  A3020/A4000 11,100 points
- Acorn SVGA Multiscan Monitor AKF50
  A high-resolution SVGA multiscan monitor, with 14in anti-glare antistatic screen and a tilt and swivel base.
  17,000 points





Advantage registration

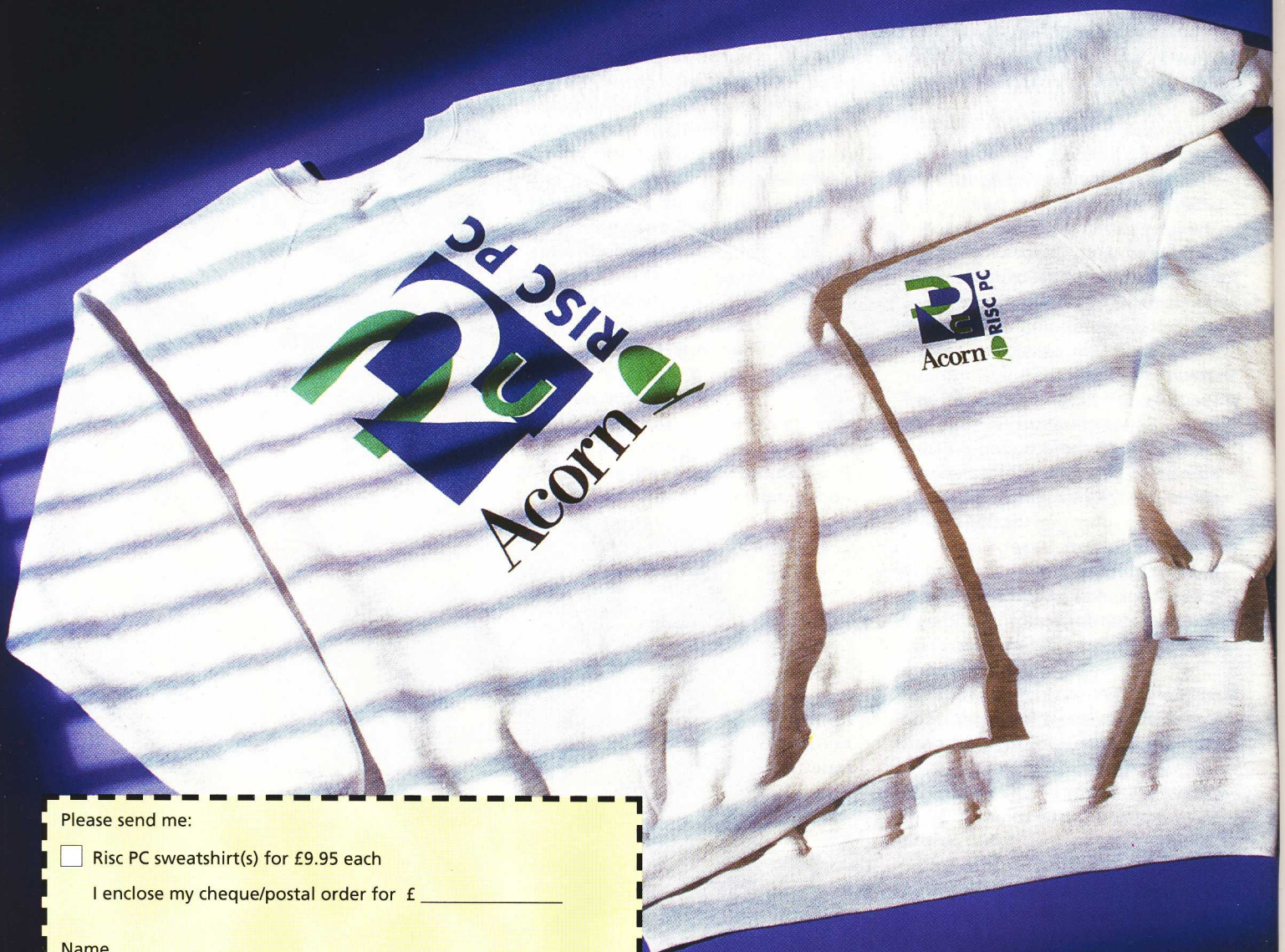
Membership is free and open to all educational establishments in the UK. All you have to do to join the Acorn Advantage partnership scheme is register your school, college or university by telephone on 0181-673 5455.

RC

Exclusive to Arc readers

Wrap up warm

...with a very special Risc PC sweatshirt



Please send me:

☐ Risc PC sweatshirt(s) for £9.95 each

I enclose my cheque/postal order for £ _____

Name.....

Address .....

.....

.....

Postcode..... Tel .....

Make cheques payable to Online Services. Please allow 21 days for delivery.

☐ *Please tick if you do not wish to receive promotional material from other companies.*

Send to: Online Services, ARC OFFER, Acorn Computers, 700 Great Cambridge Road, Enfield, Middlesex EN1 3BR.

THIS month Arc has brought you a warm and colourful Risc PC sweatshirt. The fleecy sweatshirt is warm and hard wearing. With the Risc PC logo on the back and front, this unique sweatshirt is available in one size (large).

All of which is outstanding value for just £9.95 (inc postage and packing).

Why not order yours today?

● *This offer is only open to UK addresses*

Write to reply

Arc readers have their say

Sins of omission

YOUR coverage of the Acorn Pocket Books in *Arc 6* failed to mention the transfer of data files between the Schedule diaries. This can be readily achieved using either Event or Occasion from software developers ExpLAN in Devon.

Both of these are desktop diaries for Acorn's RISC OS computers, Occasion also having an address database. However, using the A-Link, they can cross-update Schedule on the Pocket Books, even flagging clashes of appointments. Occasion can also transfer address and telephone data into Cards on the Pocket Book.

The Pocket Book is powerful in its own right, but talking between it and Desktop applications brings it into a league of its own.

Paul Richardson, ExpLAN

Thanks for pointing out our omission. You're right: one of the most exciting features of new-generation portables like the Pocket Book and Pocket Book II is the potential for integrating them fully into a school's fixed IT resource.

Legitimising the net

I READ the two articles on Internet in *Arc 6* with interest.

My own experience with e-mail in primary schools is that pupils often use it only for electronic penfriends rather than for a curriculum purpose. They soon lose interest after an initial conversation which consists of little more than "Hello, my name is Thomas, I'm six years old. How old are you?"

However, we may now have a legitimate reason for the use of e-mail in primary schools. With the imminent demise of some LEAs, small primaries can be isolated without LEA support, so it's good for them to connect. If they can get together electronically to share information, learning and training, this could be a benefit to the schools. It could also provide a way for head teachers to share the understanding of school finances.

Juliette Emerson, Independent Computer Consultant

Clearly there is a role for e-mail within schools in general – read the report on the Batley Schools project in this issue if you're in any doubt about that. But your point is specifically about primary schools. If any readers can let us know about a productive use of e-mail by primary school pupils, we'd be delighted to hear from them.

Arc reader survey results

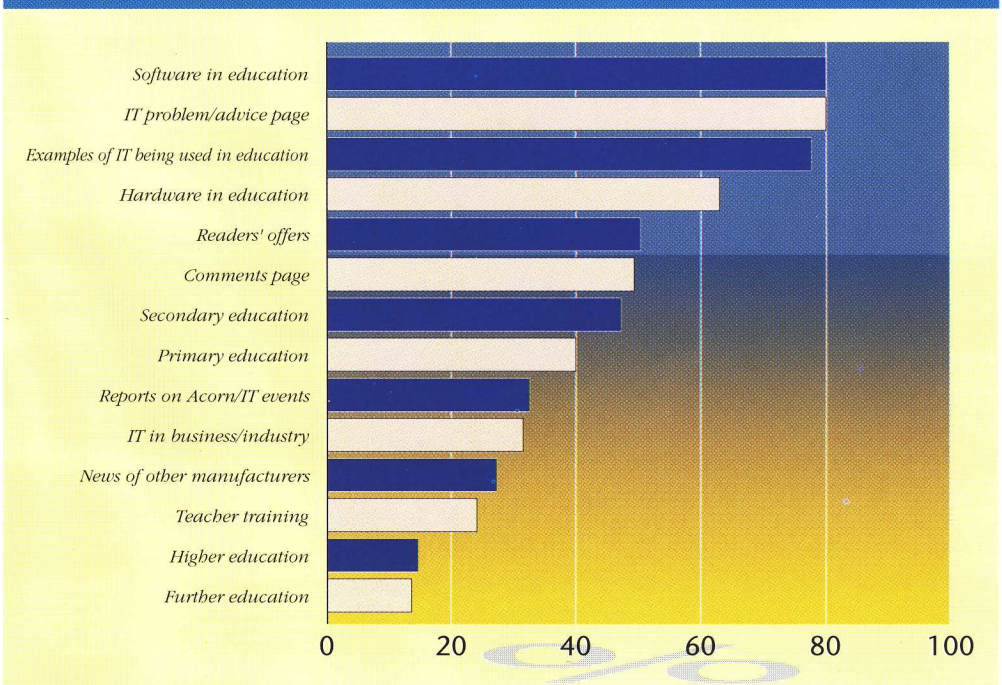
THANKS to the many readers who responded to our Reader Survey in the last issue of *Arc*. Your feedback helps us see what we're getting right, and identify the areas where we need to make changes.

The overall impression is that *Arc* is perceived as a high-quality magazine *and* a good read. But there are several areas where we could be doing more. For instance, we're seen as a good information resource, but we ought to be giving you even more features on software and hardware in education. That's something which we can put right ourselves – and we intend to do so.

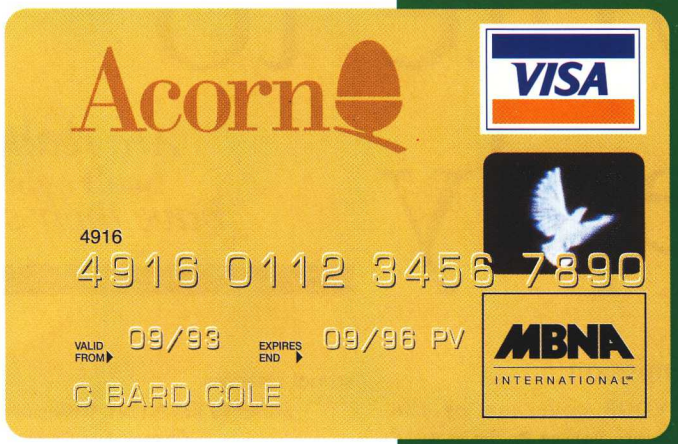
But there are some areas you'd like to see which depend totally on your input. Many of you would like to see a comments page, and most readers want an IT problem page. These can only take shape if enough readers write in with their comments and problems – so this is over to you.

The most encouraging results for us came when we asked you to identify changes that would make you more/less likely to read *Arc*. While many readers want to see more secondary and primary education news, you said no to almost everything else – which means we must be getting something right!

What you want to see more of...



Announcing the Acorn Visa Card



The Visa Credit Card with a high standard of service. A reasonable interest rate (just 17.9%APR variable). And no annual fee.

Now there's another benefit of Acorn Computers. You can apply for an exclusive Visa Credit Card.

Like all Visa cards, it's welcomed worldwide. But the interest rate is just **17.9%APR** (variable). You get a Credit Card Cheque book, which allows you to pay off your existing card borrowing at just **13.9%APR,** fixed for six months from the date your account is opened. Plus there's no annual fee!

That's not all. By carrying the card, you do more than just show your interest in Acorn computers. Every time you spend, you accumulate points which are donated to schools for them to choose valuable equipment - so your spending helps education without it costing you a penny more.

THE BENEFITS OF THE ACORN VISA CARD AT A GLANCE

Financial Advantages

- **No annual fee.**
- Reasonable interest charges - just **17.9%APR** (variable) for purchases.
- Special introductory reduced rate when you transfer the balance from your current credit card or take a cash advance - just **13.9%APR,** fixed for six months from the date your account is opened.
- No extra charge for an additional card for your partner.
- Cash access via more than 13,000 ATMs in the UK - 180,000 worldwide.

Advantages for Education

- A unique way to support education without having to spend anything extra.
- Every time you use your Acorn Visa Card, a school receives points to exchange for valuable resources like books, science or sports equipment.

Insurance Benefits

- Up to £100,000 Travel Accident Insurance (£250,000 for Visa Gold Card).
- Up to £750 Travel Inconvenience Insurance.
- Up to £1,000 Purchase Security against loss or damage.
- Optional low cost Payment Protection Insurance to provide life, accident, sickness and redundancy cover.

Help in Emergencies

- Free card registration for all your cards.
- 24 Hour emergency hotline.
- No liability for fraudulent use of lost or stolen cards, provided we are notified immediately.
- Fast access to replacement cards or cash, up to your available credit limit (Visa Gold Card only).

Acorn

The Acorn Visa Card is issued by MBNA International Bank Ltd, Stansfield House, Chester CH4 9QQ. MBNA Visa card interest rates are **17.9%APR** (variable) for purchases, **13.9%APR** for balance transfers and cash advances, fixed for six months from the date your account is opened. The **13.9%APR** is calculated by applying the monthly rate of 1.09% throughout the period of credit. After your account has been open for six months it reverts to the same variable interest rate which applies to purchases at that time (currently 1.38% per month, **17.9%APR**). The minimum monthly payment is just 3% of the outstanding balance (minimum £5). There will be no handling charge for cash advances until after your account has been open for six months. After that date a handling charge of 1% (variable) (min £1, max £25) will apply. Credit is available subject to status, only to persons aged 18 or over. Written quotations available on request.

Apply Today 0800 776262

quoting reference GT38

The Acorn Visa Card is available to any UK resident. To apply, call us FREE on 0800 776262 - or return the coupon below.

Please send me more details and an application form.

Name: (Mr/Mrs/Miss/Ms) _____

Address: _____

_____

_____

Postcode: _____

Tel: (day) _____

(eves) _____

MBNA International Bank Ltd,
PO Box 1048, FREEPOST,
Chester CH4 9ZZ.

GC38