Learning at Sunrise

What in the name of technology are we doing to education?

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to turn to its right, they want this key only to activate the turn, and inactivity for all others. Achieving this is easy if the first syntax has been used and the student is familiar with it. Often users find themselves with all keys active because they have muddled the logic.

It is not just a matter of syntax. The syntax has been chosen carefully so the user must come to recognise the predicate as a 'black box' which provides a value for the program. Finding that variables are not the same as their values is something which users of Logo do frequently.

It is considered desirable, if students are to build understandings about variables, operations and predicates, that they have many everyday experiences with them. The aim is to help them build knowledge about abstraction as a process. The belief is that this knowledge will make it easier for them to appreciate some of the many abstractions which are presented to them in school.

Another problem confronted Kate. The car reversed direction when it hit the obstacle but continued until it fell apart as its wires were stretched to their limit. She needed to be able to tell it to go back a fixed distance. The command to turn on the motor which drove the car (powered from port A) was:

```
TELL "A ON
```

Kate wanted it to go only a certain distance so she used the command

```
ONFOR 10
```

and then followed that with RD so it would start going forward and soon enough hit the obstacle again. This was good except that the car fell apart again; this time when it hit the obstacle. The bit holding the sensor had been extended with a rod which protruded like a unicorn's horn but its housing was merely pushed down onto the chassis.

Kate was stumped. She moved the sensor and its bits back further so they didn't stick out so far. Again it fell apart on impact. She made it lower, higher, whatever, ... it did not save the car. Only with prompting did Kate think about what was behind the sensor housing and what happened on impact. Finally she built a firmer support behind the section and solved the problem.

She decided it would be fun if lights flashed as the car headed for its doom. First she wrote a little procedure to control the lights:

```
TO LIGHTS
TELL 0 FLASH 30 30
END
```

This procedure tells the lights (connected to port 0) to start flashing with on/off intervals of 30 units. Then she amended her DRIVE procedure:

```
TO DRIVE
IFELSE SENSOR? [RD ONFOR 10 RD] [LIGHTS] DRIVE
END
```

This procedure was to provide two forms of action for the car. If the sensor registered, the car should REVERSE.DIRECTION and go for 10 and then REVERSE.DIRECTION again. Otherwise, it should have the lights flashing.

Some of the boys who had been watching became impatient at this point. They could not accept the word END at the end of this procedure when it was so obvious that the computer would not actually reach the end, having been sent back to the beginning by the command DRIVE on the second last line. Again what appears to be a bit of syntactical fussiness has important meaning. Very many programmers fail to understand the difference between looping back to some part of a program to run the bit again and recursion. In Logo, when the command DRIVE has been given in the second last line, that procedure is finished. It is another version of the DRIVE procedure which is called into play by the DRIVE command.

These boys are competent BASIC programmers and spend a lot of their spare time programming. They are likely to want to develop their interest in computer science as they progress through school. They are very likely to find difficulties later if they maintain the model of looping they have shown on this occasion. Unless they have opportunities to experience the inadequacies of the model they may well find it very difficult to understand much of the programming which they will encounter later. They run the risk of reinforcing their model to the point where it becomes a scar

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DATES FOR YOUR DIARY

This calendar is a list of state, national, and international computer education conferences. State conferences are only included if they are specifically calling for registrations wider than their own state. If you are a conference organiser, please send to Sandra Wills, c/o the Journal address, a notice for insertion in this column. For further information on IFIP conferences contact her via the ACS office (PO Box 319, Darlinghurst, NSW 2010).

MAY 9 - 11 1989 ICCAL International Conference Computer Assisted Learning, University of Texas, information: Dr Janet Harris, Centre for Continuing Education, The University of Texas at Dallas, PO Box 830688, MS CN 1.1, Richardson, Texas, 75083-0688, USA
DATES FOR YOUR DIARY compiled by Sandra Wills

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MAY 20 - 23 1989 “Children in the Information Age: Human Development and Emerging Technologies,” 3rd international conference, National Palace of Culture, Sofia, Bulgaria. 29 Aksakov Street, Sofia 1040, Bulgaria ph: 88 51 78 or 80 26 45

JUN 1989 NECC 89 National Educating Computing Conference, Boston, Massachusetts, USA.


JUL 20 AUG 2 1989 2nd Annual Conference for Computer Pals Across the World, Portland, Oregon, USA. Information: Jim Erwin, Lake Oswego School District, RAM Centre, 2500 SW Country Club Road, Lake Oswego, Oregon 97034-0070, USA ph: (503) 697-4080 Fd 635-0338

JUL 30 - AUG 1 1989 “Methodologies of Training Data Processing Professionals and Advanced End Users” IFIP WG3.4 Working Conference, Helsinki, Finland.

AUG 21 - 24 “Learners and The Global Village” International Symposium on Telecommunications in Education (ISTE) hosted by ICCE, the International Council for Computers in Education, and IACE, the Israel Association for Computers in Education information: ISTE Organising Committee, c/- International Ltd, PO Box 29313, Tel Aviv 61292, Israel

AUG 28 - SEP 1 89 IFIP’89 11th World Computer Congress incorporating major stream on education, San Francisco. Information: PO Box 18-P, Denver, Colorado 80218, USA

AUG 30 - SEP 1 89 EUROLOGO ’89 Second European Logo Conference, State University Gent (Belgium).

Information: State University of Gent, Department of Education - EDIF, EUROLOGO’89, H. Dunantlaan 1, B9000 Gent, Belgium ph: 091 25 41 00 ext 354

OCT 1 - 4 1989 “Back Up The Future” 7th Australian Computers in Education Conference, Canberra, hosted by the Computer Education Group of ACT. Information PO Box 311, Manuka, ACT 2603 ph: (062) 950-648

OCT 18 - NOV 1 89 “Information Technology in Education: a catalyst for change” a British Council international course, Hertfordshire. Information: Courses Dept, The British Council, 65 Davies Street, London W1Y 2AA, UK

NOV 1989 “Paper Clips To Silicon Chips” an international venue for mixing ways of helping the disabled, Hobart information: John Read, PO Box 204, North Hobart, Tasmania, TAS 7002 ph: (002) 307312

DEC 10 - 13 1989 “CAL - a means for uniting the Pacific Rim?” ASCILITE 89, Bond University, Gold Coast, Australia information: John Baker, Glenys Bishop, School of Information and Computing Sciences, Bond University, Private Bag 10, Gold Coast Mail Centre 4217 ph: (075) 951-111


JUL 6 - 8 1990 International Conference on Computers in the History Classroom, UK. Details still to be announced

JUL 10 - 14 1990 WCCE ’90 Fifth World Conference on Computers in Education, Sydney, IFIP international conference, pre conference activity New Zealand, post conference activity Japan. Information c/- Australian Computer Society, PO Box 319, Darlinghurst NSW 2010 ph: (02) 211 5855

AUSTRALIAN COMPUTERS IN EDUCATION CONFERENCE 1989
National Convention Centre, Canberra, October 1-4

‘BACKUP • THE • FUTURE’
Children are the future; we must backup their enthusiasm and their initiative, and encourage their growth

Paper and poster sessions will include: Integration of computer applications into the curriculum, pre-school to tertiary; new technologies; telecommunications and satellite technology; equity of access and use; robotics and control technology; teacher education; special education; CAD/CAM; computers in art and media; education and expert systems; classroom-based courseware development

For Information contact:
Conference Secretary
ACEC ’89
P.O. BOX 331
Manuka
ACT 2603
ph: (062) 950 648
Fax: (062) 950 872 (attention Eve Shaw)

Registration: General $125 earlybird rebate $10 (before 30.6.89) Late fee $10 (after 31.8.89) Lunches, morning and afternoon teas plus conference proceeding will be included in the registration fee

The computer Education Group of the ACT (CEGACT) is proud to host the 7th annual Computers in Education Conference, 1989

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