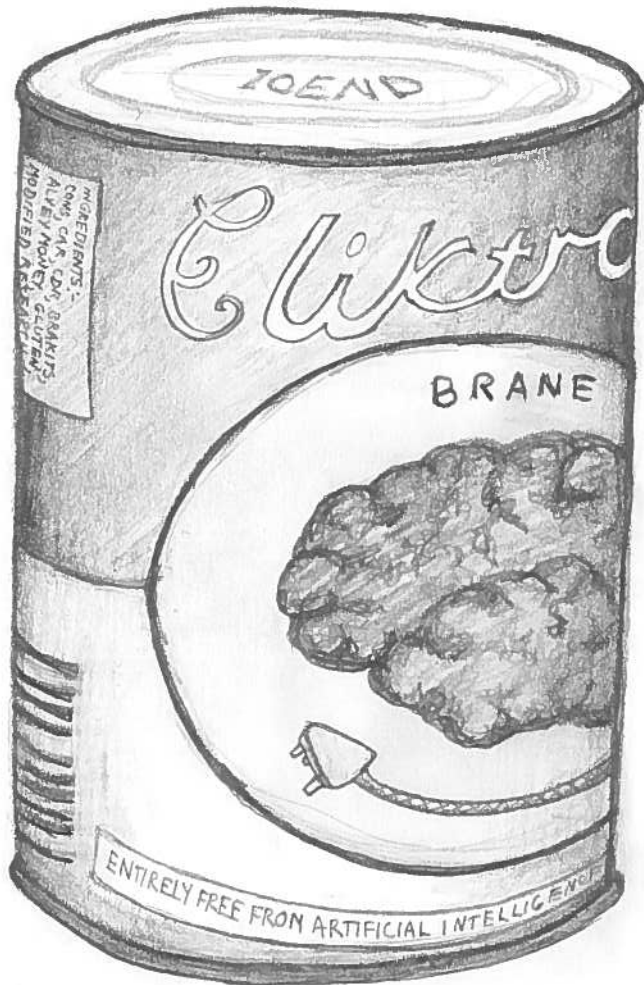


@ ##### @ @ ##### ##### @ @ ##### @ @
@ @ @ @ @ @ @ @ @ @ @ @ @
@ @ @ @ @ @ @ @ @ @ @ @ @
@ @ @ @ ##### @ @ @ @ @ @
@ @ @ @ @ @ @ @ @ @ @ @ @
@ @ @ @ @ @ @ @ @ @ @ @ @
@ @ @ @ @ @ @ @ @ @ @ @ @

@ @ @ @ @ @ @ @ @ @ @ @
@ @ @ @ @ @ @ @ @ @ @ @ @
@ @ @ @ @ @ @ @ @ @ @ @ @
@ @ @ @ @ @ @ @ @ @ @ @ @
@ @ @ @ @ @ @ @ @ @ @ @ @
@ @ @ @ @ @ @ @ @ @ @ @ @
@ @ @ @ @ @ @ @ @ @ @ @ @

Volume 2 Number 1

July 1987



Eliktronic Brane

Following the disasterous fire last August, 'Elektronik Brane' production was, with SARK support, supposed to move to a broom cupboard in Oakly Towers. Unfortunately, agreement has yet to be reached with the Halva Directorate on the relocation of the brooms even though an avuncular industrial partner has been found for an initial feasibility study. Once again, 'Eliktronik Brane' wishes to apologise for the unavoidable delays in production and to reassure disappointed readers and contributors that all possible steps are being taken to ensure future continuity.

(received January 1987)

Editor-in-Chief

Prof. C. Cuthbert Calculus (Marlinspike)

Editorial Bord

J. S. Bach (Hofstadter Institute)
James Bigglesworth (CID)
Prof. R. Branestawm (Great Pagwell)
Bianca Castafiore (Milan)
M. C. Escher (Hofstadter Institute)
Amelia Flittersnoop (Great Pagwell)
K. Godel (Hofstadter Institute)
Gilles De La Tourette (CD)

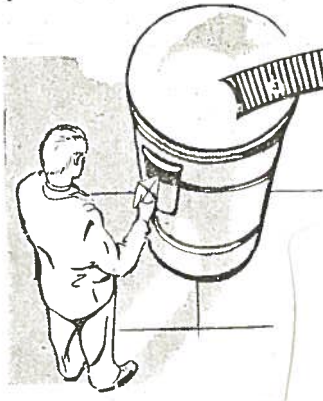
Correspondance

1 Warrender Park Crescent
Edinburgh
EH9 1DX

Typesetting by 'Parry & Eliza'

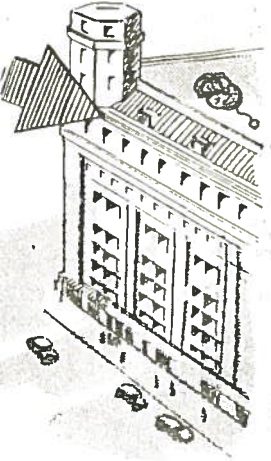
Published by 'Pocketta-pocketta Press', 1987.

Any part of this work may be reproduced in any form except where that infringes the copyright of other publishers.



Letters to the Editor

The Editor Does not Necessarily Agree with the Views of Correspondents



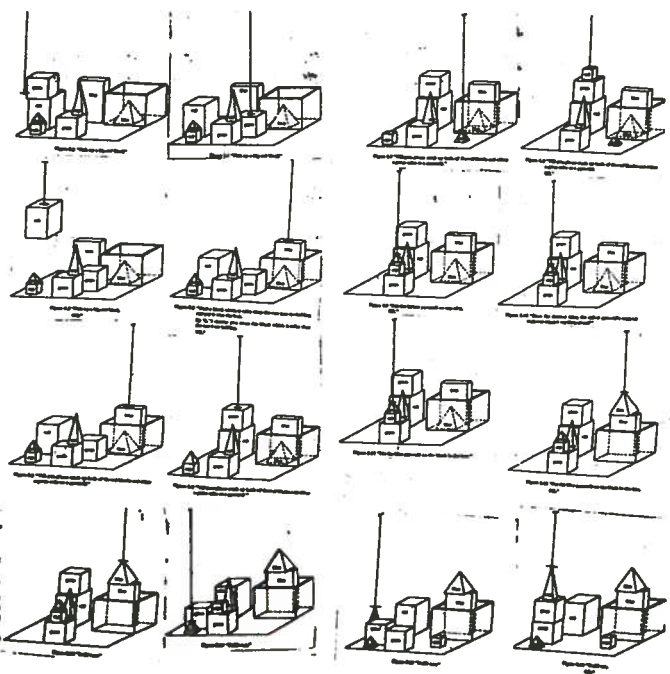
The Editor,
Elektronik Brains

Dear Sir,

"Natural Language Processing"
(pp.143-164) Harry Tennent
(Princeton University Press 1981)

Yours sincerely,

Les Grove



NAPIER COLLEGE OF COMMERCE AND TECHNOLOGY

Colinton Road, Edinburgh EH10 5DT, Scotland 031 444 2266



Principal: Dr W. A. Tormson

Dear Editor:

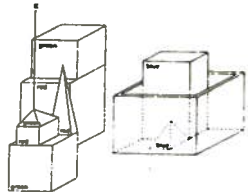


Figure 3.3 SHREDLU Blocks world (adapted from Winograd, 1972)

"Language Understanding
- a cognitive approach"
Judith Greene
O.U. Press 1986
p110

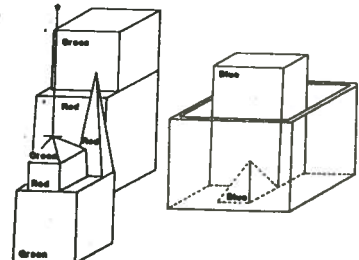


Figure 7.1 Winograd's blocks world. Reprinted with permission from T. Winograd (1972) Understanding Natural Language. New York: Academic Press/Plenum, University Press.

"PSYF: Psychological Theories & Science Fiction"
Jim Ridgway & Michele Benjamin
B.P.S. 1987 p 189

DATALINK JUNE 22 87 19

Ever a source of crucial news, Edinburgh University AI students' Elektronik Brains has the offer of the month in its Small Ads column, a "Lucky St Clive Medallion".

??!
Hmph!

"Are you bankrupt? Do your businesses fail? Is your quality control bad? Does nobody believe your lies any more?" Then send at once for your "Lucky St Clive Medallion", a "traditional talisman" that is available along with a "C5 dash mounting bracket".

Just send your cheque to ZX House in Malvern and wait 28 days, or is that weeks, or months. Like Mrs Thatcher, Sir C5's production delays seem to go on and on and on.

COMPUTING 7

DECEMBER 4 1986

Bristol brains for MoD robot

Bristol University is developing an electronic brain for the Ministry of Defence

10.35 Minder
DENNIS WATERMAN
GEORGE COLE
A NUMBER OF OLD WIVES' TALES
BY TONY HOARE
Arthur and Terry attend wedding celebrations. ‡



Giant mobile Robot from University of Feryland

The mobile roboticists from the University of Feryland, supported by a large "blue sky" research grant from NASA's astronomical vehicle group, have succeeded in putting thirty seven Crays into an enormous pantechnicon the size of a small hotel. They have built a special test track with giant roads for this machine to try out its navigational abilities. In time of course, what with the increasing density of silicon, and the expansion of the Universe, this will become a normal sized mobile vehicle, but this enables them to try out the technology of the future before it arrives. They have already succeeded in programming twenty nine of the Crays, and plan to have completed programming the thirty seventh quite soon. All this computing power will enable them to implement a deterministic model of the local environment from fundamental physical principles, in terms of the motions of fundamental particles. As Democritus has shown, this will enable them to predict any future state of the world with absolute precision. The problem of correctly parameterising the model is tackled by an implementation of the Popperian model of the scientific method. The Popperian model was chosen because the simplicity of the hypothesis generation method enabled them to implement it by interpreting the temporal structure of the random emissions of a radioactive source as metaphors in a highly suggestive language.

-----oOo-----

The Radical Robot from MOT

The Radical Robot Research Group from MOT believe that all of current AI (except themselves) is involved in a microworld which will never scale up - the world of paper problems, which are solved to give paper answers. This avoids all of the really hard AI problems, such as how to perceive a real world problem, and translate the perception into a paper description, and substitutes the easier problems of symbolic computation. It also misleads the pursuit of artificial intelligence into trying to emulate human academic intelligence, which is rather easy, since even academic humans are very poor at reasoning (as recent research at the Loyola Institute has shown), whereas the kind of intelligence possessed by every human as a birthright is the most complex kind, just disregarded by us because it is commonplace, and therefore cannot command high salaries.

They consider it a general rule that the conventional wisdom of artificial intelligence is arsa versa (the versa vice), and quote as an example the current emphasis on knowledge based behaviour, which they assert should be behaviour based knowledge. To symbolise their fiercely unquitting and inverse strategy, they have chosen GRRR as their acronym (the Radical Robot Research Group). The only way out of the AI impasse, as they see it, is by implementing a mobile robot with a long term existence, and evolving its design until it is capable of understanding what it is doing.

Their approach to the design of this mobile robot is radical. They assert that it is not only epistemologically offensive but also pretty stupid to attempt to give a robot concepts beyond its behavioural capability in the real world. They claim that this behavioural rooting is the essential feature which distinguishes real knowledge from the fragile artificial sort of knowledge manifested by such as current expert systems. Only their radical approach will enable robots with real intelligence to be constructed, whereas the techniques of conventional artificial intelligence will never be able to implement more than artificial intelligence.

They recently demonstrated one of their research vehicles at the conference on Intelligent Architectures in Vienna, the first time has been seen in Europe, a four legged robot which eats batteries, and leaves the dead ones behind on the carpet. It already manifests the lower levels of a heterarchy of robust behaviours, ranging through fear, curiosity, hunger, and aggression towards uniformed officials, and they hope to be able to teach it to leave the dead batteries outside.

-----oOo-----

Annual Cabbage lecture and Cabbage award for contribution to the development of low-tech thinking machines.

This year's Cabbage lecture will be delivered by Captain I. Haddock (Society for Sober Sailors) who is also the recipient of the first Cabbage award. His revolutionary 'Intelligent Drinker' made entirely out of matchboxes,

elastic bands and empty 'Loch Lomond' bottles stunned a panel of Experts into silence at the recent meeting of the adjudication panel. Capt. Haddock, already famous for his lavish use of Occam's razor and direct approach to Artifice and Inelegance, (indeed it was he who told no less a worthy than Prof. Calculus himself that "we are not interested in your machine") has come to the forefront of research in appropriate fifth-generation technology with his insistence on use of appropriate architectures and local materials. Captain Haddock has little time for theoretical robustness and characterises his own pragmatic approach with the slogan "Run it up the flagpole to see if the wheels fall off". The lecture will take place in room CHOO2 of the University of the South Bridge on Friday at 4pm with the award presentation thereafter. Refreshments will be served throughout.

-----oOo-----

RISQUE processor failure

According to Wendy Wood's Newsbytes on the Bum, IBM has had to withdraw its latest RISQUE processor for computer generated humour, following complaints about reliability. A hand-held unit based on the 'big blue' joke chip failed on the Johnny Carson Show recently with the following feed-line :-

Q. "what goes ninety-nine-bump ?"
A. "a bee flying backwards"

A spokesperson at The IBM Doc. Watson Centre claimed that this was not the fault of the chip design for VLST (Very Large Scale Titillation) technology was now mature and instead pointed blame at the operating system OS/360 - the biggest joke of all time.

15 & 17, HIGH STREET,
BERWICK-ON-TWEED.

W. CHARLES,
MARKET PLACE,
DUNSE,

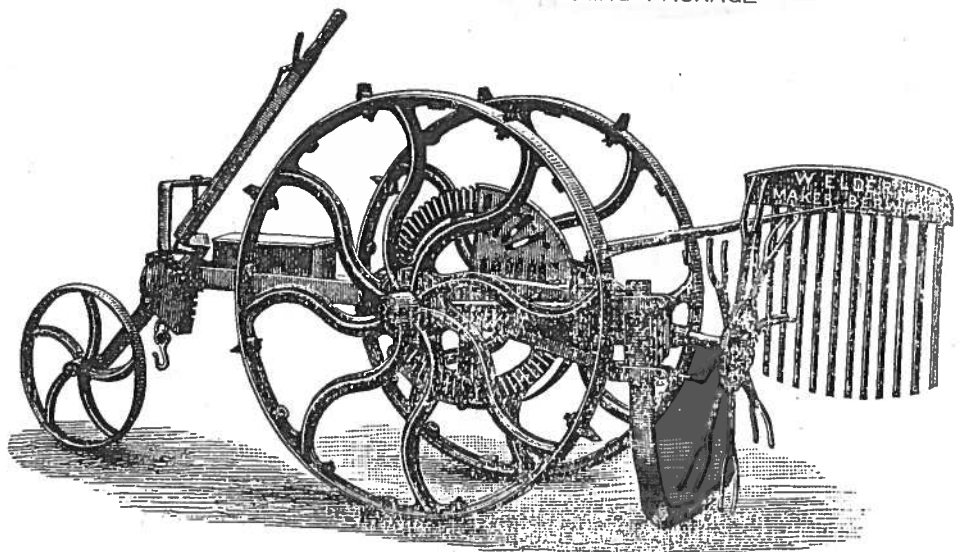
Begs to call Particular Attention to the
PROGRAMMER'S "K" BOOT
As advertised in the BYTE Newspaper.



FOR SHOOTING, FISHING, HACKING, &c.

SPECIALLY Prepared to withstand the effects of
RAIN, SNOW, AND UNIX
And to insure the wearer against the ailments
which are constantly arising from damp feet. The
sole and upper leather are specially prepared by
the patent process, ordered by the Admiralty for
the
ARTIC EXPEDITION.

WILLIAM ELDER'S
NEW IMPROVED TRACING PACKAGE



LIGHT and SIMPLE. STRONG and SUBSTANTIAL. NEAT and COMPACT.
AND NON LIABLE TO GET OUT OF ORDER.

EPILOG - A Fuddled Logic Program Notation

One of the major problems facing system developers is the lack of a suitable machine usable notation for the representation of Customer Requirement Application Profiles (CRAP). The language EPILOG[®]™ has been developed at the Department of Machine Inelegance and Natural Language Misunderstanding, West Reno University and Divorce Parlor to fill this need. Much of the notation will be familiar to workers in this field, for example the "list append function" is represented thus

Definition

append (X:α)N(∇:C + R) (↑ , <X> ⊥ ← -X ≪ append ∂↗α ⊙ ∇ ⊥ C ⇒ 42 ≫
-|

However, we introduce several new operators designed to assist the programmer in the task of realising a typical specification. The most important of these, which we will represent, thus :-), is called the temporal uncertainty operator. A common example of its use would be in implementing requirements such as "when the code generator is fully working an optimising pass will be provided". This can now be written

optimise(Code, Object) :-) generatecode(Prog, Code).

which is read "The optimised function is concomitant on the generate function". Thus the complete life cycle of a software project can be written

release (Project, 0).
release (Project, NX) :-) N ≪ NX-1, fixbug(N), release(Project, N).

A more complex use of the temporal uncertainty operator is as a "predictor", for example:

understand(English, date) :-) today(N), grantlength(Y), date ≪ N + Y + 1.

The inverse of this, the temporal inevitability operator, is written :-(. The use of the operator should be obvious, for example :-

find bug(1) :-(release

That is - "the discovery of the first major bug follows inevitably from the release of the program". Other important uses can be deduced from this example.

The EPILOG system has been implemented using a lazy recursive data/control evaluated parallel reduction schema with slices, and the simulator for this runs on 3 Cray X/MP machines. Sadly no concrete results can be reported as the first test programs have not yet terminated, but the team is confident that this is a major breakthrough in 6GL technology.

An EPILOG example

```
/*---{A project to build a fast EPILOG m/c} ---*/
```

```
A)  faster(EPILOG) :-  better(technology),new(ideas),fly(pigs).
B)  faster(EPILOG) :-  increased(budget),longer(project),useful(application).
A)  better(X)       :-  more(X).
B)  more(X)         :-  increased(budget).
C)  new(X)          :-  flexible(hours).
D)  flexible(X)     :-  longer(project).
E)  useful(X)       :-  military(X).
    military(X)     :-  increased(budget), longer(project).
    fly(X)          :-  military(X).
```

This can be reduced as follows

```
faster(EPILOG) :-  more(technology), flexible(hours), military(pigs).
faster(EPILOG) :-  increased(budget),longer(project),
                  military(applications).
faster(EPILOG) :-  increased(budget), longer(project), military(pigs).
```

We therefore have

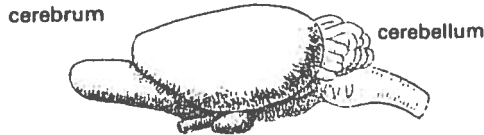
```
faster(epilog) :-  increased(budget), longer(project), increased(budget),
                  longer(project).
faster(epilog) :-  increased(budget), longer(project), increased(budget),
                  longer(project).
```

providing us with the solution, on further reduction (obvious)

```
faster(epilog) :-()  increased(budget), longer(project).
```

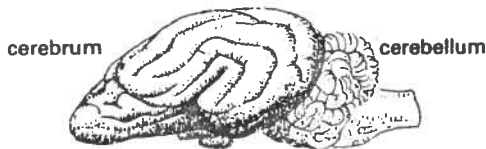
which is, of course, the expected (and correct) result. Note the use of the special "desirable result" operator in this final resolution.

**Only the past can be
created.
The future must be
cloned.**



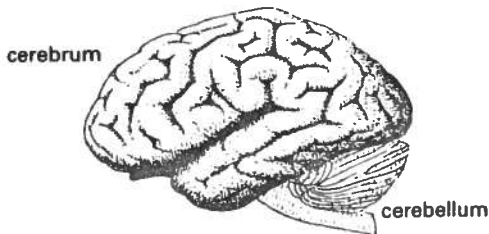
MODEL 3

**The Personal System
for everyone.**



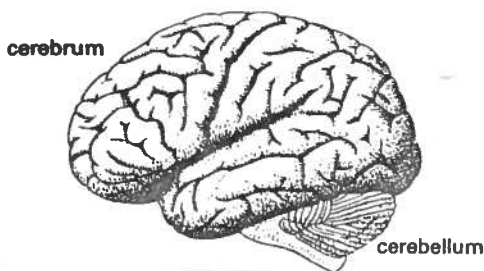
MODEL 5

**The Personal System
for the manager and professional.**



MODEL 6

**The Personal System
for the department or small business.**



MODEL 8

**The Personal System
for experts.**

The Alternative University

**New Chair
In
Commuter Science**

The Department of Ignorance Based Systems has created a new chair to strengthen its main research interest - that of Abstruse Incognition, which is undertaken in our Special Area, known as the Mad Hatter Ward.

This post is in recognition of our MAN in Beverley Hulls who is going down with AIDs. His major contribution into the research of Machiavellian Megalomania and Irrationality will always be remembered.

The department has many other on-going interests, including a Drink-Me laboratory for the People Pump Interface group and a JANET and John connection for receiving US information.

There are several Moon work stations with Lunatools, all supporting Underwater Programming. There is a Fax machine running Conlog, which is a novel discriminatory logic involving four primitive operations: clone; misrepresent; divide and conquer, and the interference rule modus vivendi.

Candidates should apply to Mr Al V. Grant, quoting reference RU/1/2?



Mr. Martin Hawley, a student at Birmingham University, rides this 80-year-old Rudge cycle two or three miles every day to the Cheltenham Branch of the Electricity Board, where he is taking a graduate course in electrical engineering.

SHORT NOTES

On the Application of Fertig's CHEAT Operator to the Stock Market
 X.X.X Guinness, Landmarks in Economic Systems, Vol. 13, No7. pp1136-1191(ill.)

Stimulated by the "CHEAT" operator outlined by Fertig in Eliktronik BRANE V1 No. 5, the author has developed a more optimised, special purpose family of variants for application to problems in applied economics. Defined in this paper is the sub-class "INSIDER", members of which are the operators "BRIBE", "LIE" and "STEAL". Their use is described in detail and their efficiency proven. Sadly the price of a subscription to LIES (\$5000000) puts it beyond the pocket of most universities, so this gem of a paper may well not have the influence it so richly deserves.

Project Zircon - An Application of the CHEAT operator
 A. Mole, HMSO, n.d.

The revelation of the power of the CHEAT operation has obviously benefited applied science dramatically, as this second testimony to its power and symmetry shows. Yet another sub-class is explored, introducing us to the "CONCEAL", "CLASSIFY" and "THREATEN" operators as well as to further uses of the "LIE" operator. This class has been named "SECURITY" and is a member of an interesting set of isomorphic classes, the other members of which are "POLITICS" and "RE_ELECT". Luckily this paper seems to be rather more widely available than the above, though its original cost seems to have been one hundred times greater.

Now you can enjoy in
 in your own home the
 comfort and convenience
 of this state-of-the-art
 vision system. No more
 clumsy robot arms, no
 more waiting about whilst
 big messy vision programs
 clog up the cpu; this
 small but powerful vision
 system is ENTIRELY self
 contained, running off
 16 1.5v pencell batteries
 (lasts approx. 3 nanoseconds)
 Just send off TODAY for
 free trial offer; if after
 four days you are not
 entirely satisfied with
 your 'PEERY!' vision



"PEERY" ©

YES! Rush me one immediately! I enclose absolutely nothing !!!!!

Name _____

Address _____

City _____ State _____

NG 6-45

system just return it to us in the reply-paid envelope and you owe nothing. We are sure you will be ASTONISHED at the clarity and robustness!

Uncertain Outcomes and Fuzzy Funding.

Quillan Llythg, Quebec, November, 1986.
Umberto F. Kratch, Doncaster (N.Y.) 1986.

The problem of task definition for expert systems is a familiar one, which make take a number of forms. In the case of a completed soft-entity difficulty is often encountered in establishing a meaningful and productive dialogue between the virtual expert (VEX) and the actual punter (AP). An extreme example of this is given in a case study by Masters and Johnson (1984). The example is of Horatio Jones who wished to use a relational database specifically designed to give treatment advice for skin diseases of the lower pinnae. Jones suffered from a medium sized pimple on his left ear lobe, and wished to seek a remedy for this socially embarrassing predicament.

Here then, was an instance of an AP with a well defined problem of exactly the type which this VEX was designed to solve. Under these circumstances, Masters and Johnson observed a probability of 0.00138% for an intelligible response from the VEX, and a 0.0000663% probability that any intelligible response would be sensible, let alone of clinical value. In the case in question (a false name has, naturally been used to preserve confidentiality, but the condition reported was based upon an actual zit), Horatio Jones was given a prescription for a naso-pharangeal administration of parmezan, to be taken bi-monthly according to the Julian calendar. While the VEX was clearly displaying a broad-based knowledge of anatomy, Italian cuisine, and chronological history, Masters and Jonhson reported that 90% of dermatological clinicians interviewed (who expressed a preference) unequivocally agreed that the prescription was not very likely to succeed, (80% suggested that Horatio Jones should 'buck up his ideas a bit', and 10% that he should invest in a medium sized shaving mirror).

On its own this example tells us nothing, but placed in the context of a paper in a notable scientific journal such as this one, its importance may be greatly inflated.

But what of the even greater problem, that of the designer employed to devise an actual application for a virtual paedagogue? At the outset of the typical research project the design objective is very poorly defined. Yet the work appears to be eminantly realisable. The proposal, which, after all, will have been as ill-defined as possible, has shown the project to be SO attainable that the sponsoring body has been persauded to part with two, or in the case of particularilty vague proposals, three or more, years' of finance.

As work progresses, however, the nature of the virtual concepts under consideration becomes more tangible. In extreme cases, this may even lead to the investigation of ACTUAL, as opposed to hypothetical, virtual-entities. These may take various forms, such as computer programs, or jottings on the back of beer mats.

Students of quantum physics may recognise the relationship as that embodied in the Heisenberg Uncertainty Princlple. We may state a special case of the principle applied to expert systems thus:

$$dP.dF = h \quad \dots\dots(i)$$

where:

- dP is the uncertainty over the purpose of the project
- dF is the uncertainty of the feasibility of the project
- h is Plank's constant.

This expression is useful when considering a variety of proposals. This may be best illustrated by citing examples of the boundary conditions of (i):

e.g. 1: The Von Neuman Paperclip.

This is not, in actuality, an expert system. In actuality, it is a paperclip. It is perfectly defined as a device for holding together a number of sheets of paper. Applying (i) dictates that, as the task definition is perfect, the probability of using the device to create a feasible expert system is, to all intents and purposes, nil. This theoretically confirms the intuitive suspicion of 89% of AP's (actual punters) interviewed (Kratch and Masters 1974), that it is not possible to make a computer out of a paperclip.

e.g. 2: The Alvey Sky-Hook

It is generally accepted that the Alvey Sky-Hook is the optimal solution to all reasonably difficult problems, and up to 73% of really tricky problems. The feasibility of the ASH being able to do this is unquestioned. Applying (i) indicates that, unfortunately, the function or nature of the Alvey Sky-Hook is a complete mystery. This grim irony of relational physics means that, should researchers begin to define the ASH, it will immediately begin to be impractical. While this means that the Alvey Sky-Hook can never attain actuality, it does guarantee researchers on the project excellent funding for the foreseeable future (see fig.1), as long as they are able to avoid defining what they are trying to do, and maintain that to do it is, in fact, a cinch.

LLythg & Kratch, Nov. 1986.

(this paper is currently the subject of a research proposal, and the authors are therefore unable to respond to enquiries which try to find out what it is all about).

As the project gains actuality in this way, leading, for example to the expression of 'ideas' or even 'opinions' about what the whole thing is about, a strange phenomenon is observed (Johnson, Llythg & Kratch, 1985). As the problem becomes increasingly clear, the possibility of achieving an actual solution (AS) becomes increasingly abstract. The unattainability of the solution rises sharply as the project reaches the critical point at which re-financing is proposed. Shortly after this clarity about what everybody is supposed to be doing rapidly declines, but all are much more positive about the possibility of a successful outcome. This is shown in fig. 1.

% certainty

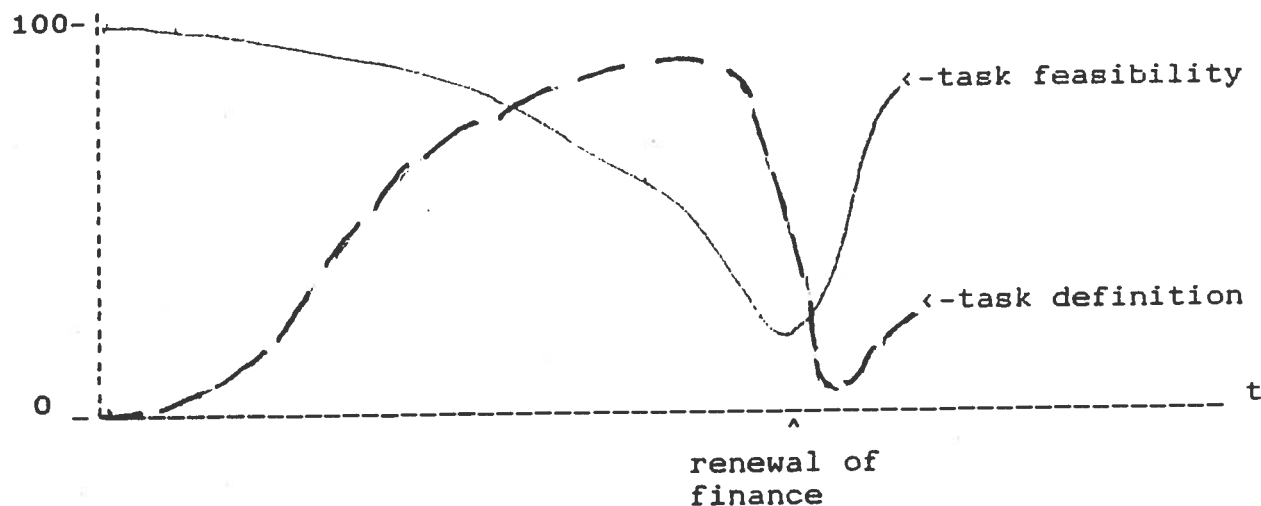


fig.1 (from Johnson, Llythg, & Kratch, 1985)

REFS

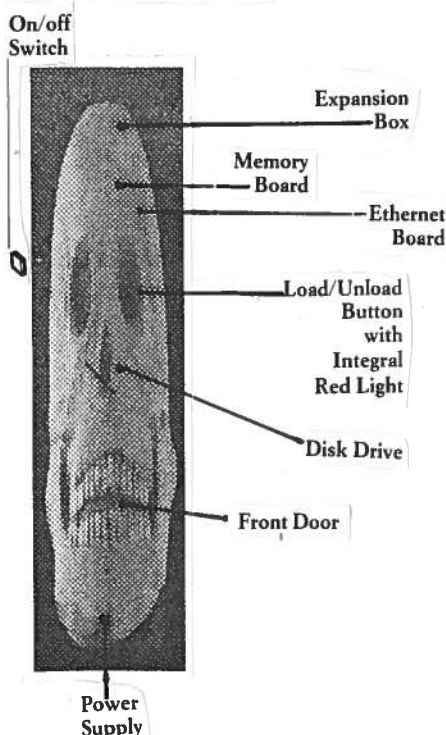
Masters, J.M., Johnson J., 'Pinneal Pustule Diagnosis by a Virtual Entity' B.M.J., V3, pp.789-802, 1984

Johnson, J., Llythg Q., Kratch U.F., 'How to Obtain a Lot of Money Without Really Trying Too Hard' Government Green Paper, No.109938c, 1985

Kratch, U.F., Masters, J.M. 'Survey of AP opinions on Global Issues' Journal of Complex Hyper-bilatology, V.76, 1974 p.637

Personal System/ The future built in.

Full-height storage configuration.



BLACKTOWER® enclosure.

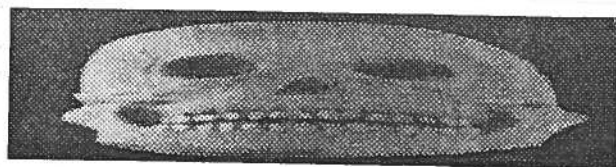
Keep ahead - build your *Personal System/* elektronik brane into a Neuroware cabinet.

Choose from the desktop KABINETT® or the floor-standing BLACKTOWER® - the one with the smaller footprint but the BIG storage capacity.

FEATURES

- Entry level Piltdown 2000 enclosure (non-expandable).
- unique 2 way swilt and tivel on the TOWER version.
- back plane with expansion slots, implementing the industry standard Cranial-100Bus®
- uninterruptible power supply means no O₂ glitches
- Ruggedised version to MILSPEC and DEAF-STAN also available.

Entry-level, half-height storage configuration.



KABINETT® enclosure.

details from

Neuroware Solutions - Greyfriars Kirkyard, Edinburgh.

ARTICLE

The Babbage Award Lecture

This year's Babbage Award Lecture was given to a packed audience at the Hope Perq Young Researchers Opportunities Centre. The lecture was given by Professor Nope, the eponymous author of the famous non-functional AIAI language (AI AI, wot's going on 'ere then? - a non-procedural joke), sometimes humorously referred to as the Language Which Likes To Say Nope. The topic was the history of Robotics Research at the SRRC (Scottish Renaissance Robotics Centre).

As early as 1750, using the most advanced Swiss clockwork technology of the time, they had identified the first major problem of programming robots, that it was extremely difficult to program robots using handcrafted wood-and-string (WAS) logic. The subsequent invention of the computer by Babbage and Turing, and the GPO's development at Malvern of the first mass produced general purpose logical device, the Post Office Relay (POR logic), made it possible to move from WAS logic to POR logic, and to automate the handcrafting by the development of a relay logic compiler. In order to test the relay logic compiler they constructed a relay logic simulator. In a masterstroke of serendipity the great roboticist Pughanpiggle then proved by means of a few simple spoonerisms that any relay logic simulator was, in the Church/Turing sense, effectively identical to the relays logically simulated, since relay logic was not only really logic but also logically real, a corollary of which meant that the computer, previously confined to an off-line role in the corner, could also be used to control the robot, which was a lot more fun.

Having thus solved the problem of the robot controller, the versatile Pughanpiggle next developed the famous Qwert robot, which cleverly avoided all of the unsolved problems of mechanical grippers before they had even been discovered, by picking things up between its two feet. To counter criticisms of clumsiness, a special pair of reinforced spectacles was devised, which Qwert was frequently able to pick up without crushing. Qwert enabled the practical demonstration of the second major problem of robotics, that it was extremely difficult to program robots using the extremely primitive low level languages which had at that time not even been invented, but, like so many brilliant discoveries before their time, this came too early to forestall the invention of these thoroughly unpleasant and tedious languages.

A hieratic robot programming language, based on a Special Indifference Engine, was devised to overcome this difficulty. This enabled the robot to be programmed, not in terms of the low floating points of artesian numbers, but in terms of the special relationship between the mating parties. The first implementation of this suffered from excessive and redundant mating solutions, some of which were also physically impossible, which was partly due to its inability to exploit symmetry, and partly to excessive zeal. Noting that the end of a robot assembly system was typically a solid geometrical construction, symmetry was improved by making the front of the system a constructive solid geometer. This enabled the special relationships to be depicted in a style reminiscent of the later Duchamp, and also allowed the error messages to be displayed in the form of shaded projections of sectioned mechanical assemblies. This new language completely removed the difficulty of low level artesian robot programming, and revealed the hitherto unsuspected third major problem of robotics, that it was extraordinarily difficult to program robots in this new hieratic language.

Alerted by the chairman to the fact that he had run out of time, Professor Nope quickly summarised their current research position by concluding that it would be unwise to attempt any further progress in the implementation of artificial intelligence, on the grounds that it might provoke a Lighthill contraction in the funding agencies, and that the proper approach was to go for knowledge based behaviour and never mention artificial intelligence.

YUP! it's what we've all been waiting for all these months...

PLEASE DISPLAY

SYMPOSIUM AND WORKSHOP ON CONFECTIONISM

MULTIPLE AGENTS, PARALLELISM AND LEARNING

SYMPOSIUM 9th of September 1986 WORKSHOP 10th to 12th of September 1985
 GENETIC ARTIFICIAL INTELLIGENCE AND EPISTEMICS LABORATORY
 FACULTY OF PSYCHOLOGY AND EDUCATION SCIENCE
 UNIVERSITY OF GENEVA

Sponsored by
 SWISS GROUP FOR ARTIFICIAL INTELLIGENCE AND COGNITIVE SCIENCE (SGAICO)
 JEAN PIAGET FOUNDATION
 FACULTY OF PSYCHOLOGY AND EDUCATION SCIENCE : UNIVERSITY OF GENEVA

SYMPOSIUM PROGRAMME

THE SOCIETY THEORY OF MIND
 MARVIN MINSKY

THE LOCALIST POSITION IN CONFECTIONISM :
 ON REPRESENTATION AND LEARNING
 JEROME FELDMAN

THE DISTRIBUTIONIST POSITION IN CONFECTIONISM :
 ON REPRESENTATION AND LEARNING
 TERENCE SEJNOWSKI

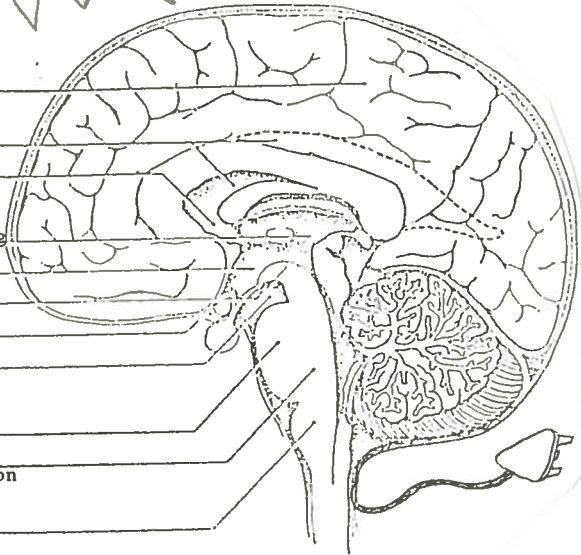
LEARNING PARADIGMS IN CONFECTIONISM
 DAVID RUMELHART

BUILDING WORKING CONFECTIONIST MODELS
 DAVID WALTZ

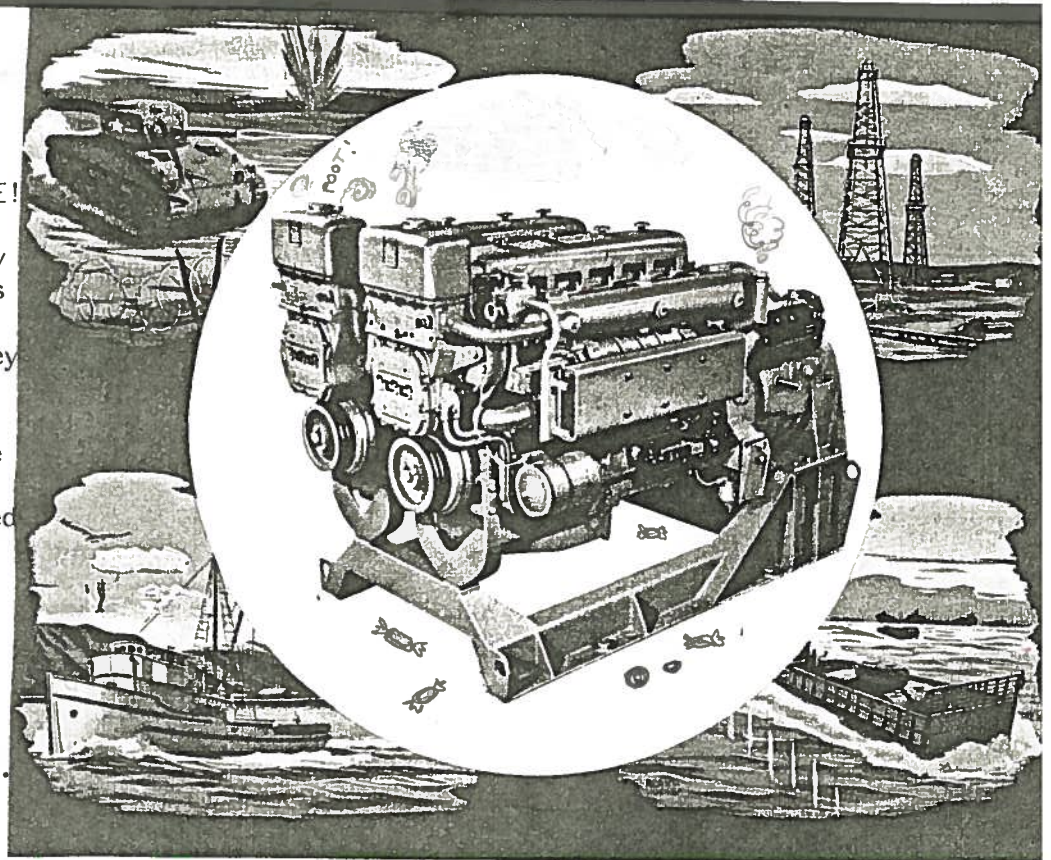


FREE! Brain Pic!

- confectionism _____
- meta-confectionism _____
- cognitive agriculture _____
- swetie-directed backtracking _____
- earwax _____
- heuristic bodge _____
- homunculus _____
- ethnomethodology _____
- arc-welding _____
- meta-theoretic axiomatisation _____
- tree processor _____



NEW! from the makers of soor-plooms, toffee doddles and berwick cockles, the very latest in advanced swetie-shop technology, a TOTAL CONFECTIONIST MACHINE! Includes: semantic glue, syntactic sugar, strawberry vortices, mint minima, lots of funny wee bits that nobody's quite sure what they do but they look important and brane-like, socks. Just add your own favourite ontology, switch on and away you go. Can be adjusted to accomodate most well-known User-Models. NO knowledge of hard sums or spelling required. Fits into a space as small as a water cistern, will not drop engine oil or other nasty things on your carpet. Weighs only 48 lbs. (empty) More information available on request.



SAVING BOTH SPACE AND WEIGHT

PRIZES PRIZES PRIZES

Jerry Chernobyl

Department of Computer Science
L Union Cordite Limited, Gower Street, London.

ABSTRACT

Prizes galore to be won. Just answer the simple questions below, and fill in the tie-breaker question at the bottom, and you could be the proud owner of a brand new ICL PERQ computer with keyboard, display and lots of big fast memory and extremely small floppy winchester. It runs the RADOX operating system which is fully DOMESTOS Compatible. [Domestos is a trade mark of the VerySoft Corporation] Second prize is a week at the IEEE conference of your choice. Third prize is two weeks at the IEE conference of your choice.

1. The Rules

- This game is not open to the employees or relatives of employees of the Andalusian Termite and Terrapin Corporation.
- The compiler's diagnostics are final, and shall not be open to discussion, not even with your program advisor.
- We were lying about the perq.
- All answers must be prepared using the trough document package, and printed on double sided, double density papyrus.
- Only people with interesting vacant research jobs and large grants need reply.
- Competitors must sign an agreement not to re-export these rules to any countries where people have pointy ears, before they may read them.

2. The Game

Answer the following trivial questions and you only have one go.

- What is the connection between Dijkstra's metaphors, and Hoare's Minotaurs?
- Why is the Transvaal Layer necessary in the Overt System Intimidation?
- What is the ISO Sczechuan Layer for?
- What does CCITT stand for?
- How much will Whitechapel stand for?

3. The Tie Break

Complete the following sentence in not less than four volumes:

There are seven liars in the ISI Open Systems Interconnection Model Because...

Answers should be sent by electronic mail to
jon@ucl.cs.ac.uk

If that doesn't work try:
jon@uk.ac.cs.ucl

Failing that try:
uk@white.house.pocket.ronnie

ABSTRACT -Recent Trends in RD-work in London.

A prescient paper in a recent edition of Elektronik Brane foretold of a nightmarish world of mass unemployment, society being the victim of increasingly powerful and sophisticated computing resources. However some R & D is now being invested in Retro-Development (RD). Read on ...

Earlier this year a colleague of mine wrote of the urgent need for the "Retro-Development" of computing resources to help us to cope with the future by redeploing the past [1]. There are many threads to RD. My learned colleague (actually just a mate of mine) concentrated on software RD. But software can only be as bad as the hardware that won't run it! I shall thus attempt to fill out the picture by informing the reader of the latest hardware RD.

There are three distinct strands of hardware RD.

Firstly, we may simply replace new machinery with old machinery. This is a superficially attractive scheme but flawed as too many of the old systems actually worked quite well.

Secondly, there is unplanned RD. As I put pen to paper (my computer is currently 'down') countless manufacturers are producing new hardware which is significantly less usable and useful than the equipment it is intended to replace. Such RD there will always be but it is outside the scope of this paper. Readers interested in further study of this area should acquaint themselves with GEC's product line.

Thirdly, and the subject of the rest of this paper, is planned RD. It is this work which will produce the spectacular hardware flops that a sane future demands. Project TINA (There Is No Acronym) is attacking hardware design on a number of fronts. Some of the lines being followed are now described.

Central to RD is the Basey machine. It is well known that a number system with radix e offers the greatest representational efficiency for the two numbers 0 and 2.something. At the moment we have the worst of all worlds: binary representation is neither comprehensible to humans nor efficient for machine storage. The Basey machine will clearly be a significant advance. Current work includes trying to calculate e to 2 sig. figs., analysis of how to overcome a few minor electrical engineering problems and strenuous efforts to increase the level of funding of the project.

Equally vital to RD is work being undertaken on computer memories. We have long suffered the misnomer "random" as in "random access memory". As any fool knows, memories are anything but random but closely resemble a New York street plan. CRAM (completely random access memory) will put this matter right. Machine bit and byte orders (thankyou DEC for pioneering work here) will vary randomly and frequently. Information retrieval will be simple but the information retrieved will be unpredictable. Current work in hand includes the purchase of a copy of Knuth's seminal tome to discover if an algorithm exists which might allow the retrieval of particular items of information.

If CRAM fails to slow down even the supercomputers of tomorrow, information hiding will come to the rescue. Information hiding, as an aid to program design, is well known. Hardware information hiding is less subtle. If it should happen that some information required is actually resident in primary memory, the hardware will quickly page the memory out to disk and then archive it to tape. The tape heads will then be realigned and ...

Whatever happened to bio-memories you may well be asking? TINA has found a dramatic use for them by considering architectures for the future. In an attempt to both go forward, and yet at the same time backwards, from parallel architectures we have decided to develop cereal architectures. When funding allows a variety of cereals will be bought for benchmarking.

Project TINA shares the current optimism for optical memories, optical in the sense of the memory being easily visible to the human eye. Many output devices will become redundant if the memory is directly visible. The long term goal of making memory truly human readable is some way off. In the short term binary spectacles are being developed which will allow the wearer to read stored information conveniently.

The aforementioned optical memories will inevitably lead to machines being somewhat larger than they are at present. We will leave the age of the mini and the micro and enter the age of the Macro. This should not be viewed as a Luddite move turning the clock back. The executive will still be able to have a computer sitting on his/her desk, although the desk will clearly have to be larger than at present to accomodate it. Executives, who revel in the extra status that their necessarily larger offices and larger desks will confer, will pay recompense in the shape (and noise) of the air conditioning equipment that will also inhabit their offices.

REFERENCES

- [1] E. Blyton "Noddy and the Analytical Engine".

SMALL ADS

IBM PC owner?? Here's the secret that made me a fortune - "Sell it to a Museum NOW!!" The secret's out! Yes, but for \$100/hour I will personally use my experience to help in your negotiations with the collectors (results not guaranteed) Box EB 3

-----oOo-----

Wanted urgently for cash! Collector seeks any items of original Black electronics (watches, calculators etc.) Best prices paid. Write C. Sinclair, England.

-----oOo-----

For Sale - Osbourne 1. Must sell due to back injury. Phone 031-666-1212

-----oOo-----

Turn old 8" floppies into an attractive garden ornament - Crafts for Today, Issue 2 out now (with issue 1 absolutely free inside)

-----oOo-----

Learn fluent PL/I in less than a week with Linguamouse - the only truly interactive, self-education program available today. Dept EB, WIMP House, Malvern

-----oOo-----

GNU, Emacs, Bison - great software at reasonable prices, Box EB27

-----oOo-----

Expert Escorts - let our computer system select your ideal companion for the evening. Phone 01-200-0200

-----oOo-----

Our Final Try!! Wanted Working GEC System 63 Software. Box EB 99

-----oOo-----

EXCLUSIVE catalogue of menswear from the "Hacker" range, photographed on attractive models. \$5 (refundable on first order) Box EB 39.

-----oOo-----

Itsy Didums loves Hacker Wacker to bits!!!! (especially when he bytes.....)

-----oOo-----

Pause for thought: This statement is false. R. Reagan

-----oOo-----

TIME FLIES LIKE AN ARROW and other famous computer slogans on our great T-shirts in the "Hacker" range. EB 39

-----oOo-----

What is the Secret of the York Box?? We Challenge the Bishops and Politicians to Open the Said Box Today!!! The Future will be Revealed and All Problems Solved. Published in the Name of Truth by the Society of York Box Users.

-----oOo-----

Earn pounds in your spare time! Become a ZX Spectrum maintenance engineer and have a life time of work open up to you - in your spare time take up the great new game INSIDER DEALING and rake in the cash to support your job.

-----oOo-----

Hyperactive CPU ??? - then pop one of these little beauties into your drive slot for enough wait states to fill 10 hours.

Mogadon Corp.
Oblivion Plaza
Milton Kleene

-----oOo-----

FOR SALE

Two vision processors, will split, buyer collects, sale forced by recent bereavement. BOX 00-

-----oOo-----