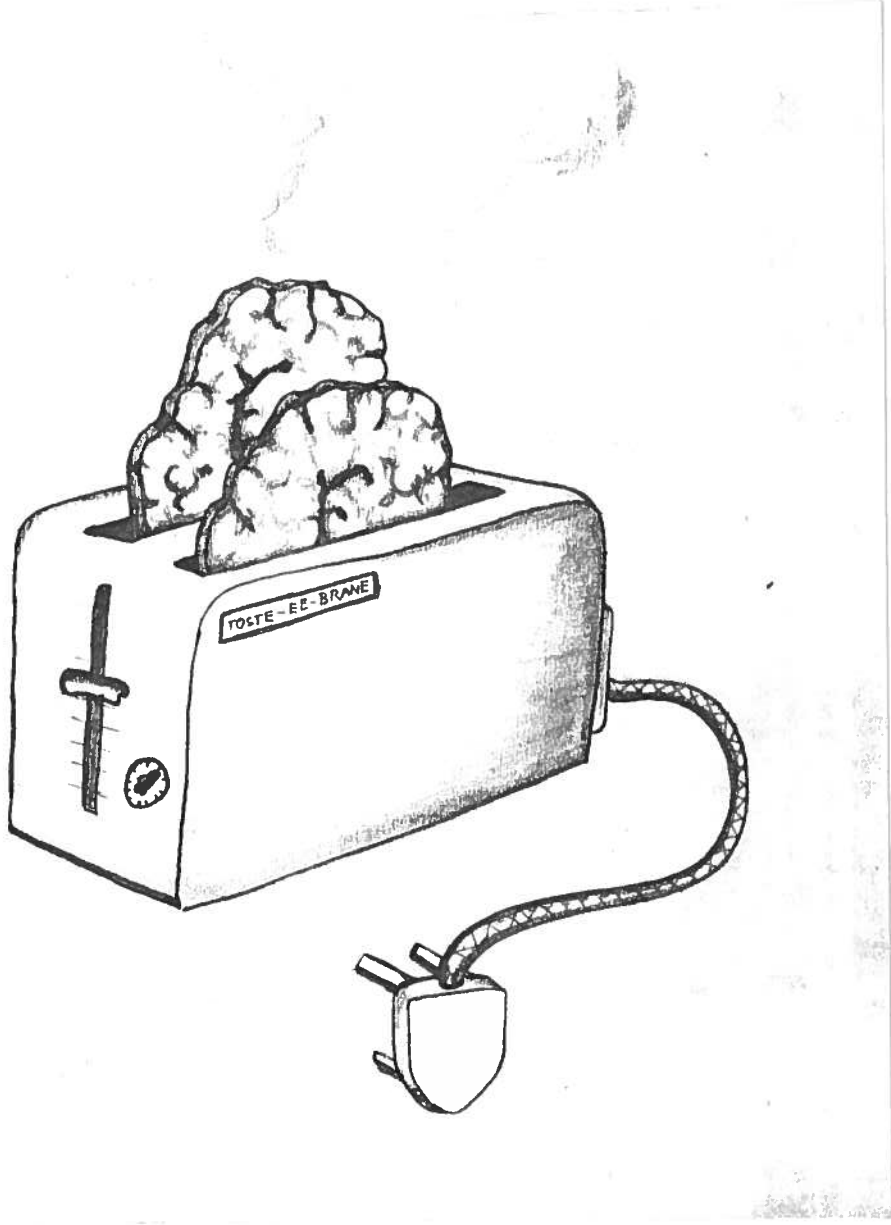


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Volume 1 Number 4

July 1986



## **Eliktronik Brane**

### **Name Change**

Please note that, for copyright reasons, from this issue onwards, the journal's name is 'Eliktronik Brane'. We wish to apologise unreservedly to 'Elektronik Brane' for any offense or embarrassment we may have caused them. In settlement we have agreed to pay a generous sum, in their name, to 'Twilight Homes for Distressed Experts', Cambridge, Mass.

### **Editor-in-Chief**

Prof. C. Cuthbert Calculus (Marlinspike)

### **Editorial Bard**

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)

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Typesetting by 'Parry & Eliza'

Published by 'Pocketta-pocketta Press', 1986.

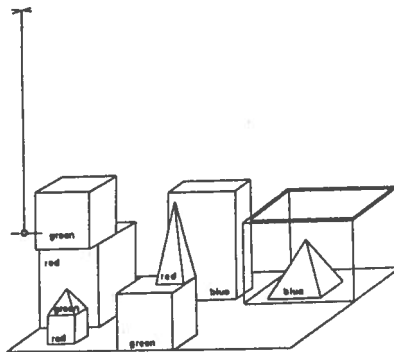
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LETTERS

Block B3  
Box 15  
The Point, Mass.

The Editor  
Elektronik Brane

Sir,



Yrs shrdly,

Ian Growd

Reference: "Computational Semantics", ed. E.Chariak & Y. Wilke (p.94).  
North Hoåland, Amsterdam, 1975.

**COMPUTING AND CONTROL COLLECTION**

IMPERIAL COLLEGE OF SCIENCE AND TECHNOLOGY

*The Lyon Playfair Library*

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4th June 1986

The Editors.  
Elektronik Brane  
1, Warrender Park Cres.  
Edinburgh,  
EH9 1DX.

Dear Sirs,

I am writing to let you know how popular your excellent publication is with our students, at the Computing and control collection.

In fact so popular has it proved, that two of the three copies you've sent us have gone missing. (Obviously people wanting to share the experience with friends and loved ones.)

Would it be possible for us to purchase back numbers to allow the slightly less light-fingered element of our membership to have a look in ?

I do hope so,

Many Thanks,

*Sue Clarke.*

Sue Clarke  
(Asst. CCC)

Dear Elektronik Brane,

You have been chosen by the **Fortran Leisure Arts PLC** computer to have the chance of examining at 1 Warrender Park Crescent the very latest in computer technology with absolutely no obligation to buy! Yes! For 10<sub>2</sub> days you can see and feel the texture of real Californian hi-tech electronics, hand soldered by skilled craftsmen in their traditional garages located close to the famous Bay! Imagine your pride when your neighbours see that van pull up outside the door of 1 Warrender Park Crescent and unload your very own super-computer. Yours for 10<sub>2</sub> days to do with as you please - forecast the weather, crack DES, simulate nuclear explosions! And if after 10<sub>2</sub> days your job hasn't finished, all you need do is send £100<sub>16</sub> monthly for this wonder of modern technology to be yours. Write to :

CRAY II Offer,  
Dept. GEC63,  
Fortran Leisure Arts PLC,  
Goto House,  
Sinclair Street,  
Todmorden.

Stating choice of colour (grey) and operating system (CP/M, MS-DOS), and if you accept this amazing package within 10<sub>2</sub> days you will receive ABSOLUTELY FREE a copy of RFC822 hand bound in genuine KnuthTeX (TM) and also a silver-plated OS/360 JCL card preserved for your grandchildren to wonder at!!!! We here at **Fortran Leisure Arts PLC** await your order. Don't delay!

Yours sincerely



C. Babbage  
Marketing Manager

## IN BRIEF

### Top scientists clash with Militant Fish Wing

Reports have been received of sporadic fighting at the Finite State Pelagic Automata research institute (now housed in the Edinburgh wave tank project, as reported in the Brane Vol.1 No.2). It is understood that members of the Militant Fish Wing, (not to be confused with the Militant Fish Tendency) with possible external help from the Trout Liberation Front, made an early morning assault on the institute, claiming that any simulated fish, as intelligent entities, should be entitled to the freedom of an unrestrained environment. Researchers at the institute, who wish it to be known that they are henceforward to be referred to as the Popular and Democratic Fish Collective, disputed the application of the epithet 'intelligent' to their creations. The MFW retorted with accusations that the scientists were "playing God" and scuffles ensued. A police spokesperson said that it was possible that the incident had been "planned well in advance" as a mobile chip-van was seen in the area handing out supplies of white-pudding-supper to members of the MFW.

### Chernobyl affectd Yooropin Compurers

A top American scientist said last week that the increased radiation levels in Europe, due to fallout from Chernobyl, would affect the Reliabilidy of Yooropin Compurers, due to radiation particles corrupting the contents of memory chips. This problem also arises due to natural background radiation, and large computer systems employ error correcting memory access systems to compensate for this, but smaller systems, such as the ZX systems used by the British forces, do not have this protection. A British army spokesman said that they did not envisage any problems due to the this corruption, for although they lacked error correction at the hardware level, the high redundancy of military intelligence had a stabilising effect, keeping the amount of ambiguity at the customary level, despite the higher radiation count.

### Latest LIMPROD news.

A pokesperson for GACC (\*1) yesterday denied that loss of the MOW contract for the LIMPROD late warning radar system would mean massive redundancies, since most of the staff working on the project had already left the company some time ago. The company were in any case treating the possible loss of the contract as an entirely hypothetical question, since none of their competitors offered the degree of security offered by the unique GIGObYTE GACC WOMs. In case of capture, the American systems all required the aircrew to eat the floppy discs, to prevent them falling into enemy disc drives. Even when toasted and served in a bun, this manoeuvre still required the aircrew to be alive, whereas the GIGObYTE GACC WOM (\*2), using the director's bog seat variation of the trapdoor algorithm, translated all information fed into it to biodegradable unreadable memorandum files (\*3).

\*1 GACC - A trademark of Galactic Automation and Clockwork Computers.

\*2 WOM - Write Only Memory, a trademark of GACC.

\*3 - Acronym registration applied for.

Are nuclear power stations radiation hard?

In the wake of American reports that information in European computers has been corrupted by fall-out from the Chernobyl reactor, questions were asked in Parliament this week about whether the computer control systems used in British reactors were radiation hardened, so that their operations would not be affected by an emergency they were supposed to control. The Minister for Energy said that the computers in British nuclear installations employed the same high standards of radiation protection as the British Army, but that as a result of Chernobyl, they were now considering the use of the British Army Radiation Proof Eye Patch for emergency workers. American troops and emergency workers who might be exposed to the blinding effects of a radiation flash wear very expensive goggles which darken in a microsecond. A typical piece of British ingenuity, the Radiation Proof Eye Patch consists of an ordinary NHS eye patch with a pound coin, or a "Maggie" as the troops affectionately call it, glued to the inside. In the event of a flash of radiation, the eye patch prevents the eye from being damaged by radiation. Not only does it protect against higher levels of radiation than the American goggle, the ingenious use of the "Maggie" means that it is getting cheaper all the time. As a further safety precaution, now that a recent report by the British Underwriters Association has determined that the Chernobyl disaster was an Act of God, British Nuclear Fools were arranging to have all British nuclear installations blessed by the Bishop of Picester St. Nute. By these means the likelihood of damaging leaks of radiation from British installations was being reduced to negligible proportions. A committee drawn from the management of BNF, the police, army, and the Vatican were looking into the question of suppressing damaging leaks of information.

Abstruse Incognition at the Alternative University

The Underwater Programming Team have developed Conlog, a novel discriminatory logic running under Lunatools on Moon workstations. Conlog has four primitive operations: clone; misrepresent; divide and conquer, and the interference rule Modus Vivendi.

Computerisation of the DHSS

Progress in this large scale demonstrator project has been hampered lately by the unwillingness of the DHSS staff to allow the ai (artificial ignorance) research workers to enter DHSS offices, or to interview staff. In particular this has meant that Prof Branestawn's new arbitrary algorithm, the

most important breakthrough in Officious Systems development for several weeks, has had to be implemented in the BBC (basic bureaucratic core) without the careful parameter mistuning essential to a properly pessimised performance. A project management spokething said that they would reschedule the ignorance elicitation phase to coincide with the escape of the antepenultimate alpha test version, so that there would be little effect on the final deadline gravestone, but in Prof Branestawm's opinion the improperly pessimised arbitrary algorithm could have an unfortunately beneficial effect on the Injustice Maintenance System, and might even mean failure of the final Officious System to achieve the necessary Kafka rating of user hostility.

-----oOo-----

#### SPECIAL INTEREST GROUP IN KNITTING.

Requests have flooded in to the Brane from many sources for the formation of a special interest group in knitting. Although we are as yet unable to publish the 'Knit Your Own Brane' algorithm (it is hoped that the first attempts at this long awaited program will have been disentangled from the editorial borad's BUN workstation in time for the next issue) we are delighted to have received some inside information on current research in KNITTING and recreate it here in full for the enlightenment of interested readers.

KNITTING:- a flexible programming language for wool-based systems

One of the oldest and most powerful programming languages still in use today is that of the knitting pattern. It has a fairly small closed class of primitive data structures, an open class of complex data structures and an open-weave -textured semantics.

Pattern matching and Search algorithms

Can have a distinctly ad hoc flavour if 'strands' are allowed to 'tangle' or algorithm increases exponentially with the number of 'strands' involved in a single 'row'. The sub-language FAIR-ISLE imposes severe restrictions on strands per row (with an upper limit of two) thus ensuring a simplicity of implementation which belies the subtlety of combinatorial pattern samples.

Endless LOOPS

There exists the possibility of infinitely recursive patterns which, unlike similar situations in other programming languages, have a practical application in the field (c.f. gents' endless pink comforter, '1066 and all that'). Most patterns in fact consist of what is topologically equivalent to a single loop, (see 'The Teacup/Doughnut Problem' in Horner 1984) a situation which provides a deceptively simple solution to most debugging problems with the use of the 'Ripitout' tracing package.

Knitted ATNS

Watch out for 'jumper' arcs

## Top-down design with bottom-up implementation

All knitting programs can be reduced to one or more manifestations of the general pattern outlined below. It should be noted that although convention decrees that the whole program is written from top to bottom and each instruction from left to right, execution is actually from bottom to top and each row proceeds from right to left.

```
BEGIN
  Cast on
    knit some *
      (knit some more *)
  UNTIL
    big enough
  cast off
END
```

## Combinatorial Syntax

(Not to be confused with 'combinations syntax', to be covered in a later issue)

particularly suited to the 'MOHAIR' dialect. 'PURL' has been well tested in the field in numerous learning, teaching, advising, extrapolating and knotting situations and has proved to be remarkably robust.

## References

'Maze Problems and Their Solutions' Ariadne A. Arachnid, U. of the S.B. Publishers, 1962.

'Knitting with lambswool calculus' C.C. Calculus, Pocketta Pocketta Press, 1977.

'Topological Issues in Moral Philosophy' H.Horner, Working Paper no.3, Institute of Moral Machines, 1984.

-----oOo-----

## INTERVIEW

An interview with Sir James Clone of GASP.

We are privileged to be able to offer you a rare interview with Sir James Clone, the manager of Strategy, Tactics, & Organised Methodical Procedures within our very own Galactic Automation and Systems Programming. GASP is the only real competitor in our sector of the Galaxy to the Big Dog, the Sirius Cybernetics Corporation. We did not interview Sir James in his office, since the great man is a strong advocate of a fast moving vertical management structure. The interview was therefore conducted as we ran behind him on his hourly tour of the latest areas of crisis with his forty two direct reports. Sir J. explained to us that "direct reports" strictly speaking means those immediately inferior to him, though in practice most of them have been that



way for a long time.

BRANE: We are very pleased to see your company recruiting new graduates again. Can you tell our readers what qualities you look for in a young graduate?

JC: My company owes its position to the uncompromising pursuit of excellence. We require the elite, young men & women of great intelligence, creativity, enthusiasm, perseverance, dedication, loyalty, self-confidence, and ambition. They should be self-starters, capable of moving rapidly into the future, & preferably have private means. Not easy people to find, I can tell you!

BRANE: Some of the more superficial commentators have been puzzled by this resumption of recruitment so soon after your redundancy exercise.

JC: These things often seem odd to the outsider, who of course is not privy to our long term strategies. The first thing to be clear about is that there are in fact two entirely separate issues involved here. Our redundancy exercise was designed to get rid of surplus manpower, a surplus generated by the technology gradient differential combined with the local Galactic recession; whereas our recruitment is designed to fill positions which the recent shift in the back-weighted projection of the market vectors against the planned integration of our product line along the silicon density axis, which should mean a lot more money in all our pockets!

BRANE: Thank you for clearing that up for us, Sir J. Perhaps I could now ask you about your company's recent entry into the wrist computer market?

JC: There has been a lot of nonsense talked recently about GASP changing its policy, strategy, & so on. There is absolutely no truth whatsoever in these rumours. We have never changed our strategy, and we never will. It has always been our clearly stated aim to make the best possible use of our resources to provide the market with the spectrum of computing resources that we decide that is to say that the market wants. Now I know we used to make everything ourselves, & no one does it better, but the Boss is very keen on good press relations. Every day he reads the trade press. You work for one of these papers don't you? I'm afraid my newsagent doesn't stock them. Anyway, the Boss reads about some geezer making a fortune selling some carrot peeling robot or whatever, so he sends me a memo saying "JC - why don't we make a carrot peeling robot & what are you doing about it?".

Well, there's always some poor outfit that haven't got the sales force to shift their carrot peeling robot, so we make them an offer they can't refuse, & the next week the press has headlines "GASP enters vegetable market!" or whatever. It keeps the press happy you see, & that keeps the Boss happy. Not being one of us working managers he relies on the press to find out what GASP is up to. And of course our sales force is second to none. They can sell you anything you like, and a good deal of what you don't. But I must stress that we are not leaving the mains computer

market. Mains computers have always been our strength, & there are still a lot of people who don't think it's a proper computer unless it has a mains plug. These portable jobs are all very well in their place, but you can't expect the same standards of professional reliability. A friend of mine was running a simulation of the Galactic economy while tanning himself on the beach, & a dog pissed in it. Poor fellow sold all his shares in the Martian silicon foundries before he twigged.

BRANE: As you know, Sir, the Sirius Cybernetics Corporation recently announced a wrist computer with a gigabyte of memory & a kilobit processor, running off the owner's electrostatic field. This was followed by your own announcement of a deal with a company whose device has been on the market for some decades, & even when it was announced was the last device to use a clockwork processor. Do you think you can compete with the Big Dog's wristcomp?

JC: You must realise there are a lot more things we have to think about than our competitive position in the market place. It is also necessary that we present a product line with a fairly smooth escalation of the performance/price ratio. We had to find a wristcomp, its true, but we had to try & find one which did not introduce a discontinuity into the curve, bearing in mind the recent release of our new business pocket series. It's no joke, trying to balance all these things. You have to keep your feet on the ground & the balls in the air without losing your grip of the fundamentals.

[ While this interview was in progress, Sir James also found time to cancel three projects, debug next week's version of the operating system, embarrass a secretary, show a window cleaner how to trace the event queue in a core dump, & prove by algebra that the size of a development increment was both inversely proportional & irrelevant. This remarkable ability to do several things at once is one of Sir James' legendary qualities. For the sake of clarity, we have of course only recorded the part of his conversation addressed to us. ]

BRANE: Perhaps you could explain to our readers, Sir James, just how you manage to conduct so many conversations at once?

JC: I'm glad you asked that question. It is a technique we now use in our latest series of business pocket computers, the Distributed Reliability Ostensible Software System, which instead of offering the inhuman & unrealistic exactitude so characteristic of past generations of computers, now speaks to the businessman in precisely the not entirely clear manner he has always used himself in the past, but first pioneered by myself. I have had my cerebral hemispheres quartered, thus octupling my mental capacity by enabling me to think about three things at once. It also has the convenient side effect that my left hand doesn't know what the right is doing. Since you don't work for me I can tell you that the secret of management is simultaneously to impress & oppress, enthuse & confuse, leaving a feeling of confidence & agitation without any clear expectations which could prove embarrassing next week. The fact that I have eight brains means that even I am not

quite sure what I am talking about, but that's one of the key points about distributed intelligence. The system is more than the sum of its parts, otherwise there would be no way you could pile up the sort of code these twits are writing & expect it to work. You look at each individual component, absolutely no sign of intelligence, yet spread the whole lot out through a vast network of processors & only an extremely intelligent person can begin to guess what it might be capable of.

BRANE: We would like to thank you, Sir James, on behalf of our readers, for this most interesting interview.

-----oOo-----

## RESEARCH

Prof. I. M. Wright  
Dr. N. Angler  
Bedlam Institute

Much work in the field of artificial inelegance has been devoted to the bemoaning the large size, and therefore intractability of the problems. In order to overcome this problem many people have suggested using massively parallel processors (MPP). We show the fallacy of this entire approach, and propose our own solution.

The use of massively parallel architectures can be shown mathematically to be unable to cope with the problem. The proof is simple. No matter the number of processors, the parallel arrangement forces linear dependence, and thus one-dimensional thinking. This would obviously handicap any system that purports to be truly inelegant.

The solution is trivial. Make the processors mutually perpendicular. Thus, three mutually perpendicular processors (MPP) can approach the problem from a three-dimensional perspective (with obvious implications for vision, and spatial reasoning). The versatility of the system offers new vistas for artificial inelegance. Imagine what could be done with six such processors.

We have proved conclusively that MPP systems are of no use whatsoever, and we should therefore concentrate all our efforts on the development of MPP systems. Only then can we expect to develop truly inelegant systems.

## Disturbed Computing - A Potted History

With the increasing number of small, cheap Etch-A-Sketch<sup>1</sup> systems available in many institutions it has become obvious that in order to justify the existence of these IMAGE<sup>2</sup> "playstations" some new vein of research proposals had to be mined. It has always been apparent that these many devices had to be seen to be being used and the widespread introduction of GANJANET<sup>3</sup> piping and the use of the THC family of protocols has made this a viable proposition. Of course, there had been the ill-fated Ambridge Loop, but this product of British ingenuity and lack of funding pretty soon fell by the wayside. The first use to which many of these installations were put was of course the preparation of CVs<sup>4</sup> which could then be printed on the revolutionary, new "John Bull"<sup>5</sup> automatic printstations which were also then coming to the marketplace. When this initial flurry of activity died down it was necessary to carry out some fundamental research so that the purchase of more printstations could be justified by the large volume of neatly presented papers they produced (Note this productivity is aided immensely by the undocumented UNIX<sup>6</sup> utility QZ<sup>7</sup> - naturally standing for "generate wordy and vague, academic paper about something and then send to a conference with which the author is involved"). Making full use of the intellectual resources available to them some institutions have since then concentrated on the development of multi-user games which serve the dual purpose of keeping staff awake and of forcing them to communicate with each other. However, another, more sinister development has been the construction of LEECH<sup>8</sup> programs. These, once loosed in a GANJANET<sup>9</sup> environment, insidiously take over empty space of any available playstation and fill it with badly structured, difficult to maintain code - morse, semaphore, AMSLAN<sup>10</sup>. It has been suggested that some of these have escaped from the research environment and this may explain the prevalence of incomprehensible sounds in cars and places of refreshment. This is an area where further so called research could produce at least 12 new papers, several MOD<sup>11</sup> grants and cirrosis of the liver.

The highest level of creativity has been applied in the area of "remote file systems" which enable users to read colleagues new papers, CVs<sup>12</sup>, job applications and other personal letters with considerably less difficulty than before. There are several examples :-

- 1) The Newhassle Confection - a special feature of which is the ability to cut a GANJANET<sup>13</sup> in *any place* and find the word "NEWHASSLE" in perfectly formed EDCDIC<sup>14</sup> characters round the edge.

- 1) Etch-A-Sketch is probably a trademark of some toy company, maybe even a registered trademark.
- 2) IMAGE (Interactive Magnetic Art Generation Equipment) is YATM<sup>†</sup>.
- 3) GANJANET is a trademark of Hunter S. Thompson.
- 4) CV is a trademark of Romulus & Remus, City Builders to the Emperors.
- 5) John Bull is a trademark of some other toy company (see 1 above).
- 6) UNIX is a trademark of the UNIX Record Player Co., Japan and the UNIX Fire Extinguisher Co., Spain.
- 7) QZ is a trademark of the Alphabet Tagliatelle & Trattoria Pasta Aoli Research Centre.
- 8) This is just a word in capital letters.
- 9) GANJANET is a trademark of Tuli Kupferberg and has no connection with any other product of the same name.
- 10) AMerican Sign LANguage for the deaf - this is not the same as American Sign Language for Libyans, Nicaraguans and other Commie Bastards, which consists of only one sign, an outstretched middle finger slowly raised to the vertical.
- 11) MOD is a trademark of Thatcher Enterprises PLC (UK).
- 12) CV is a trademark of CITROEN.
- 13) GANJANET is a trademark of the late Paul McCartney, Mull of Kintyre Agricultural Research Station.
- 14) Eel, Blackberry, Cherry and Duck Ice Cream

†) YATM is a trademark of Brian Kernighan and his Murray Hill Blue Blowers.

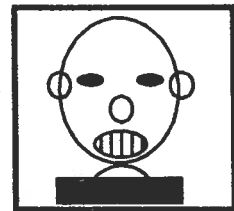
ARTICLE

- 2) COCANET - a product of the BSD<sup>1</sup> group.
- 3) NFS - This "National Front Sympathiser" software is specifically designed for use by SUN readers<sup>2</sup> and has introduced the concept of the "Page 3" picture server and of course the SUN RPC<sup>3</sup>.
- 4) RFS - Another product of Alphabet Tagliatelle & Trattoria PLC<sup>4</sup>. RFS is of course a acronym for "Really Friendly Software".
- 5) LOCUST - this was developed as a highly reliable way of getting money from DARPA<sup>5</sup> and has since gone public.

With this large amount of expertise available it is very likely that someday soon this work will actually produce something of use to a community wider than that of developers of disturbed systems, however such radical changes may not arrive as soon as we hope.

This paper was made possible by Basildon Bond and grants from SERC<sup>6</sup> and GCHQ<sup>7</sup>

*Herr Professor Doktor Doktor Huw Ristik BSc, MPhil, DPhil, CIA, FBI, MBCS is currently a Visiting Research Fellow at the Holy Roller University of Southern Alaska. where he divides his time between the female students. His research interests are in the field and the bedroom. He is a member of the BCS, ACM, IEEE Computer group and Raymond Revue Bar.*



- 
- 1) Bolivian Sinus Dust
  - 2) SUN readers is a trademark of Jasper Carrot.
  - 3) SUN Readers Picture Column
  - 4) Pesto, Linguine and Cannelloni
  - 5) Death, Armagedon, Rape and Pillage Associates
  - 6) South Esher Revolutionary Council
  - 7) Good Conservatives Hate Queers



ARTICLE

**The Software Life Cycle and Confectionism.**  
A research report and funding proposal

**Keywords:** Life Cycle, Windows, Burgers

1. Introduction

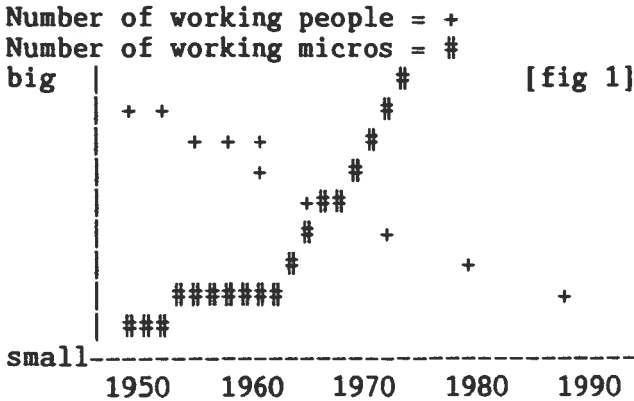
Recent developments at the Royal Systems Reverse Engineering office (RSRE) have been combined with the Manchester Monetarist-eKonomic Institute (Manchester MK. I) to achieve a new fusion of retro-development and economic analysis.

It has long been recognised (at least in confectionist circles) that:

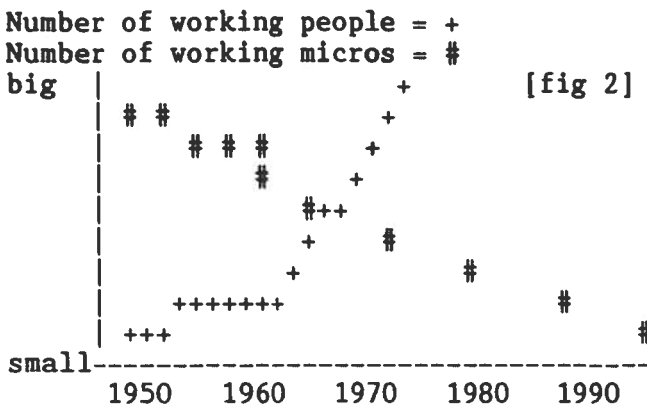
- 1 The UK is now a third rank eKonomic force
- 2 That millions of men and women are out of work
- 3 That millions of IBM PC's are in work
- 4 That there is a clear inverse-relationship between (2) and (3)

Therefore it is proposed to apply the inverse identity function to the software life cycle, and thus directly to the hardware cycle, to change the employment curve from a downward one (fig 1) to an upward one (fig 2).

**Before:**



**And After:**



## 2. The New Software life cycle and it's effects on employment.

According to one of our Postgraduates, who is exploring time consuming methods for converting COBOL source into paper [JACK1] This "inversion of the tree" quickly identifies a solution to all our problems. At each stage, if any increase in functionality or optimisation of solution occurs, the previous stage in the life cycle must be re-entered. If insufficient time is spend in early phases it inevitably means by the time testing is started the process is too fast. Great care must be taken with project management to ensure bugs are inserted early on to prevent this.

### The New Software bi-Cycle

Disassemble Running code on IBM PC

Convert Assembler into COBOL

Convert COBOL into diagrammatic form suitable for non-computer literate experts.

Identify Manual procedures Least likely to be optimal and define an Index-Card system to suit.

Test system

[Unskilled Labour takes over] Convert above schema from jobsheets into person-programmable cards and bootstrap into the FILING CABINET system.

### 2.1. Hardware

The technology to support such redeployment of effort does not exist. We must embark on a parallel course of hardware retro-development to produce machines with reduced functionality and storage capacity to match developments in human effort.

Do we use American technology and simply buy IBM ? -this is a very cost attractive solution, but will reduce the American economic crisis instead of our own. We must go it alone and use purely British reverse engineered products. -The GEC product line being one contender.

However, the ICL range spans more government departments, and so there are good economic reasons to favour them. It is proposed that the current ME29 range be halted, and instead work start on developing a 1900 series, which can ultimately be linked into the Manchester Monetarist-eKonomic system of retro-intelligence.

The resulting reduced functionality machine can then be targeted towards retro-development of an Autonomous Typed Lower Algorithmic Sequencer machine, and ultimately the pilot Auto-Clerical Engine which can employ 300 people to decode and process the data which previously a single IBM PC would do.

### 2.2. Parallel Developments in Serial Processors.

The GPO and a large catering manufacturer with interests in confection-ist research have expressed interests in finding a mandatory academic element to co-operate on a similar exercise. The Goal is Limiting Electronic Office- systems, to de-integrate the electronic office back into the filing cabinet



### 2.3. How can we Enter the Red Queens Race and Win? \*

We propose that the Government fund an intensive research effort to develop de-parallelised hardware and Multi- Instruction Set Computers (MISC machines). Such a project must be established soon to compete with the Japanese.

Already work is in hand to develop a Graph Expansion Machine, which de-parallelises optimised solutions, using a now popular window based package running on IBM PC's However an American Confectionist Research Centre is concerned at possible infringements of its "burger-King" system and has recently announced a lawsuit claiming copyright of all Increased Size (or "big") Multi-Access Computers

We can't hope to achieve total card-indexality immediately but we could hope to implement a limited scale Hollerith System, or possibly even totally mechanise our schools maths and stats teaching to provide a lower calibre of mathematician needed for the future.

Clearly This country can lead the world in reduced functionality systems. We must act **NOW** to establish the funding base and lack of Infrastructure required to implement such an exercise. Critics may say that retro-development is a high-risk enterprise, and that we are too far gone down the path of Economic Development to turn back.

Here at the RSRE and "The Sweet Shop" we are confident that Retro-Development is the only path to take. The fact that we can predict with 100% certainty what developments to make at each stage, and know in advance the level of de-functionality achievable, and that all published work to date is directly relevant cannot escape our notice.

However, there is some worry that carried to it's logical conclusion we may have problems in Japan by around 2046, when the first de-nuclearisation exercise is scheduled, and by 2045 The EEC should be entering it's primary phase of dismemberment. Work must start **NOW** if we are to be ready to survive the final programme.

### 2.4. References

- [DickPK1] "Theories in Retro-Development and the Hobart Phase"
- [DickPK2] Recent Trends in VALIS
- [DEV0] De-Evolution methodologies: the JOCKO HOMO paradigm.
- [JACK4] The Jackson Method for Inverting The Diagram.
- [JACK5] The Jackson Five Method for COBOL expansion
- [KATNER] "White Rabbit" on "Conspicuous in it's Absence" Vol 1.
- [Tichy] "Star Diaries"
- [Vonnegut] "Slaughterhouse 5"

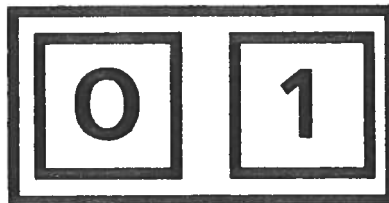
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\* Go ask ALICE (alice-request%white.rabbit@uk.ac.ic)

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Yes! We will be using all the power and resources of the ELEKTRONIK BRANE computing centre to calculate Pi to an unheard of 4 trillion, trillion places. From this vast choice of binary digits we will randomly select each day 7 lucky bits and if you complete a row, column, diagonal or iliffe. vector on your card, you could share in the richest prize ever offered by ELEKTRONIK BRANE! To carry out this herculean task we have commissioned Fortran Leisure Arts PLC to hand craft to our most exacting specification a massive computing engine using the latest fifth generation techniques. Imagine the power of 3 million ZX80 personal computers linked together! Visualise the perfection of beauty and sheer Megaflops created by skillfully linking all the GEC System 63 installations in the world (using OSI protocols, of course!) Even an ICL PERQ 1 cannot match the awesome Logical Inference Execution Speed (LIES) of this super new machine. Cunningly wrought in the timeless tradition of AMSTRAD, this machine will be constructed from the finest Welsh Silicon, hand etched under spotless conditions in the INMOS Workshops. So play **BRANE BINARY BINGO** today and **WIN!!!!**

STOP PRESS: The Editor regrets that due to supply problems in the Welsh Silicon quarries this competition has had to been postponed.

ARTICLE

Instantaneous arithmetic

0.1. Introduction

For the pure confectionist, arithmetic is mere computer science. However, for many application areas (e.g. grant quantification) some elementary numeracy is an unfortunate prerequisite. Current languages (e.g. Cocomlog, English) are non-numeric and thus unsuited to hard sums. We propose a novel approach which enables all arithmetic to be carried out in no time at all. We present the Zero System and then show that all arithmetic is Zero arithmetic.

0.2. The Zero System

This is included solely to provide theoretical street credibility(+) and will not be mentioned again until the very end of the paper.

Formation rules

- i) '0' is a term
- ii) if 's' & 't' are terms then 's t' is a term
- iii) the only terms are those given by rules i)-ii)

Syntactic theory

- i) Reduction rule: 0 0 => 0

Axiomatic definition

- i) Axiom: 0
- ii) Rule of inference: 0 0  

$$\frac{\quad}{0}$$

Formal semantics

- i) Lexicon: 0
- ii) Concrete Syntax: <0 exp> ::= 0 | <0 exp> 0
- iii) Abstract syntax: e -> 0 | e e
- iv) Semantic domains: E == Expressions  
Z == Zero numbers == {0}
- v) Semantics: Me: E -> Z  
Me [0] = 0  
Me [e1 e2] = apply (Me [e1]) (Me [e2])  
where apply: Z \* Z -> Z  
apply 0 0 = 0

Clearly, by Kirk's Thesis(\*) the Zero system is Two Ring equivalent and thus completely decidable, decidably consistent and consistently complete.

(+) Elektronik Brane apologises for the lack of Greek and Gothic symbols and for the use of meaningful identifiers.

(\*) Beam me up Scott-Strachey.

0.3. The algorithm

Cursing function theory and the Kleenex hierarchy show that exponentiation is multiplication is addition. By analogy:

$$\begin{aligned}
a^b &= \log^{-1} b * (\log a) = \\
&\log^{-1} \log^{-1} (\log b) + (\log(\log a)) = \\
&\log^{-1} \log^{-1} \text{llog} ((\log b), (\log(\log a))) \\
&\text{where } \text{llog}(x,y) = x+y
\end{aligned}$$

It is well known that taking the logarithm of a number repeatedly tends to 0. Thus, counting the number of times that the logarithm must be taken gives an index of the original number's logarithmic depth. We can specify this in meta-Cocoalog, which is Cocoalog extended with arithmetic, as:

```

log_depth(0,0).
log_depth(X,N) :- log(X,Y1), log_depth(Y1,N1),
                  N is N1+1.

```

Clearly, a number can be reconstructed from its logarithmic depth, say D, by finding the logarithmic inverse of 0 D times:

```

reconstruct(_,0).
reconstruct(N,D) :- anti_log(N,N1), D1 is D-1,
                   reconstruct(N1,D1).

```

Thus, we can compile an exponentiation 'A^B' as:

```

compile(A,B,X,Y) :- log_depth(B,X),
                    log_depth(A,Y1),
                    log_depth(Y1,Y).

```

and present answers with a post-processor:

```

pretty_print(R) :- reconstruct(R1,R),
                  reconstruct(R2,R1),
                  write(R2).

```

Now, consider the logarithmic base satisfying:

$$\log x = x; \log^{-1} x = x$$

The use of such a base obviates the need for the meta-functions 'log' and 'anti\_log' and the logarithmic depth of all numbers is 0. The meta-Cocoalog functions reduce to:

```

log_depth(_,0). reconstruct(_,0).

```

By substitution the pre and post processors are now simply:

```

compile(A,B,0,0). pretty_print(R) :- write(0).

```

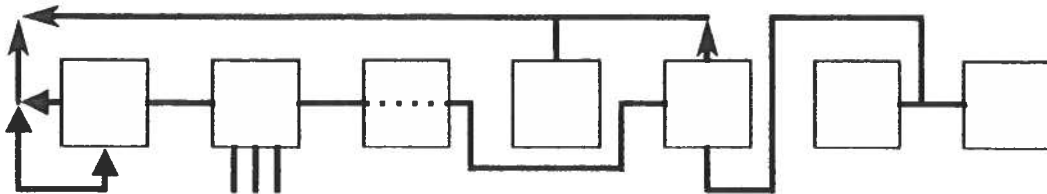
and the auxiliary function 'llog' may be discarded.

This completes the demonstration that all arithmetic is Zero System computable.

## BEAT IT? No you can't - this one is a real THRILLER!!

Yes, now you at home can benefit from the discovery that has made its inventor very rich! Double your pleasure - with this system it takes TWICE AS LONG to produce a BASIC program than by any other method! Be the envy of your friends and neighbours - none of them will understand your code! Make MONEY - sell your old diagrams to the Saatchi Gallery! Yes! We here at Fortran Leisure Arts PLC are proud to bring you -

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†only with the super-deluxe 73Gbyte model.

### The One Colour Map Problem

S.T.O.Alexander

The problem, if it may be expressed colloquially, is to colour a map with a single colour so that no two adjacent countries or seas are "in the same colour". Are there any topologies (surfaces, volumes etc) for which this is a non-trivial. The motivation behind this investigation is purely therapeutic.

#### 1. A solution in search of a harder question to satisfy

When we first heard that the four colour map problem had been solved automatically by a machine, we immediately felt stimulated. Was this the first sign of computer humour? A proof of something intuitively obvious to cartographers for millenia had been sought and found by something that could not even find it's way round the one way system in Soho.

Laterality is the name of the game when it comes to grants; to whit what? In 1945, a six year attempt to implement the simplest solution to the 1 colour map problem was foiled. It involved more pain and thought, more sub-problems, the generation of more entertainment, jobs and spin-off plow-shared military hardware and more films shown on a sunday afternoon or christmas bank holiday when there's nothing better to do because all the shops are shut and the cinemas and the theatres, and the snow is never any good in this country anyway.

What expert system could have come up with such a scheme? What connectionist in his/her wildest dreams (highly concurrent breadth first tree searches) would expect a piece of hardware to waste its time following such diversions. A rich horizon opened up before me.

The general problem domain to be scrutinized is as follows: Is there an interesting space in which one colour will suffice to differentiate between any collection of different objects? Not if you're colour blind.

## 2. Travel Grants Broaden the Smile

An essential pre-requisite to this line of research is a reasonable travel grant. Nationalistic morphologies must be studied to find how they colour the topochrastic infrastructure of our thinking.

Serious polycultural drinks must be sampled with reasonable frequency to ensure minimal surface effects and boundary conditions.

## 3. Hardware and Swimwear Requirements

An olympic pool with a fully trained team of dolphins should suffice as regards special computational liveware. The maintenance contract of a years supply of wet fish, and four bottles of tequila a week should be considered essential.

## 4. Deliverables

Intellectual properties resulting from this study will be the only in the province of the mind.

Turing devised a test to identify intelligence. My test for success identifies something significantly less interesting. Put a computing machine on a stage, and a human being on another stage. If both make you laugh then the computer is worth going to see again.

This means that we will have an actualizable metric for the success of this research.

## 5. Conclusion

I've reached mine. You may reach your own, or maybe you will go on counting on an endless n-pea replete gravy train of grants.

### A Virtual Time Operating System.

#### 1. The Jargon Field

For the coming 6th generation computer, [ref Dirac, Ford P., Salo V.] a whole new style of o/s is required. Using relativistic technology, the virtual time swapping multi-processor machine will be upon us.

Running processes in different time streams (strata) according to a dynamic priority scheme, far greater power than before is in our grasp.

Infra-temporal processing means truly unreal time response. The invention of the DTA (direct time access device) with associated peripherals such as Minute and Second caches allows the o/s a far more flexible TAA (Time Allocation Algorithm), and using the concept that Frere Knuth devised for managing Temporal schemas, the timeband/spaceband problem is now solved.

Hofstadter's brilliant contribution has been the time-sink. With optimisation of DTA and IDTA (Indirect Time Access) devices, and the smoothing of gleeches in the Chronoserver, the aspatial/spatial chronoplexing of user time is as easy as reading a digital watch.

#### 1.1 Problems

Certain difficulties still exist, however, and are somewhat intractable.

For instance the problem of initial protochronicistic processes exhibiting retroactive error detection has not been solved.

SMALL ADS

\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*

Conceived by Madmen  
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peacekeepingheatseekingmissilecrushingspacepollutingxraying railgunninglaserflashinggeigercountingdeathraining.. SDI!

\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*

Do you suffer from VDU eyestrain? Trembling mouse fingers? Then you need miracle New Formula ASR33. Specially designed to alleviate your symptoms, ASR33 contains only tried and tested mechanical components to bring you complete relief. As used by MI5.

\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*-\*

Further, timelock has not been eliminated, and the related enigma of retropassive parenticide looks like it will not go away.

The easiest solution will probably lie in the work P-Jones has been doing on chrono-patching and anticipatory resultation proofs. Indeed this line of approach may revolutionize the cycle of program production.

The easiest way to regard this is: Given the proof of correctness of the results, the generation of a program to produce these results is trivial, and probably unnecessary. QED.

2. The Future

With so much Solar System wide activity in the area, it is hoped that we Lunarics will soon answer the Brazilian challenge to produce the first 7th generation machine.

Autochthonic difficulties aside, the subjective distributed timeband-reduction machine cannot be more than 30 seconds away.