BOOK REVIEWS CONTINUED

Whilst the report will obviously interest those who were present, but who couldn't attend all the workshops, the clarity of presentation and wide scope of the articles will also make it a very useful resource for those people, not just women, who are encountering infotech for the first time.

Another feature of this report is the way it takes nothing for granted in explaining concepts. There is also a valuable directory and reading list at the end of the report which will extend its usefulness.

Recommended.

JOURNALS

We get quite a few journals and other periodicals here at Black Chip - and our thanks for those who have continued with the exchange copes during our period of quiesence - so I've given very brief information below on some of them.

Libertarian Labor Review

Subtitled "A Journal of Anarchosyndicalist Ideas and Discussion", this twice yearly journal regularly carries articles of interest to readers of Black Chip - indeed we've lifted one for this issue! It is excellently produced and well-written and has a wide coverage. Recent issues have covered recent labour disputes and struggles in Spain, the Eastern bloc and Nicaragua; has a lively discussion going on relating to modern technology as well as more historical pieces and the obligatory book reviews. Subscriptions are $5.00 per annum and the journal can be contacted at Box 2824, Champaign, IL 61825, U.S.A.

Computer Use in Social Services Network

This is an American journal specialising in the use of infotech in the Social Sciences - which covers medicine, social work, education and the "human services". The journal often carries informative articles - the latest issue has several on the practicalities of networking in these areas. Besides the journal there are many CUSSNet nodes around the world linked using FidoNet, Opus etc. together with a directory of software - much of it Public Domain or Shareware. Contact Dick Schoech, Associate Professor School of Social Work, University of Texas at Arlington, Box 19129, Arlington, TX 76019, USA. Fees are $15 for individuals.

Community Computing Network

CCN has been around for a long time now, but somehow I get the feeling it may have lost its way. Still that's only a personal opinion based on the last few newsletters. They have done a lot to get the voluntary sector involved in infotech in an empowering way - rathed than just as passive consumers of services. They're organising a conference in 1990 - but with fees likely to be £100 per person, I know one paper that won't be represented there. Their bulletin is edited by Bill Thompson at 78 York Street, Cambridge - from where you can get other info on CCN.

Science as Culture

This journal has rapidly established itself as a worthy successor to Radical Science Journal. It is published by Free Association Books and costs £20 for 4 issues. SaC has given itself a wide-ranging subject area to cover, which is good as it brings together articles that would have been buried in specialist journals. The presentation is very clear - hardly surprising given the size of type and amount of space between lines, etc. The commodity form is very bookish - which should mean longer shelf-life for each issue but at £5.95 per 160 page issue every quarter, it may be beyond many people's budgets. The quality of writing is uniformly high, relatively non-dogmatic and well-informed. In any issue you can expect items on film, computers, medicine, AIDS, songs and so forth. Recommended. From 26 Freegrove Road, London N7 9RQ.

Richard

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BLACK CHIP
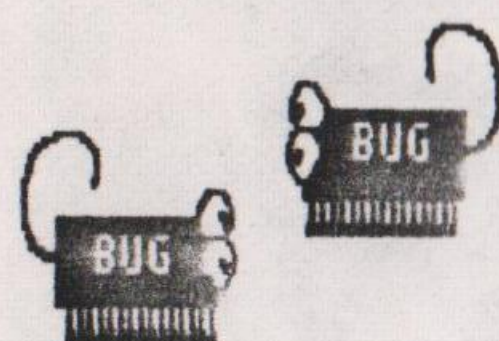## A CRITICAL JOURNAL OF NEW TECHNOLOGY

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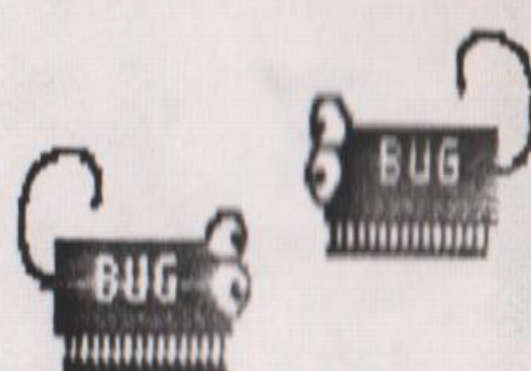### NUMBER ONE: THE QUILL

INSIDE :
BAUDRILLARD, MAILER, VOGEL, BLACK, STEIN & SHEPPARD
ON:
OASIS, INFINITY, SQUATTING, TOTALITY, ACTION, LANGUAGE

EDITORIAL

Welcome to the second in the new series of Black Chip. And why has it taken so long to get this issue out to you? The simplest reason is that we haven't had enough material to go into this issue until now. So, if you want to see Issue 3 before 1991, I suggest that you get your pens and pencils - or preferably pootahs and word processors - working and let us have something worth printing.

This issue features several long pieces, each of them giving a different approach to similiar subjects. As Black Chip is not 100% committed to any particular "line" we're happy about having a pluralist approach as far as contributions is concerned. (And typefaces, as you'll notice.) What we do need is critical pieces, articles which show both an awareness of the technical and social aspects of the new (info) technologies - their possibilities and dangers.

We are, I would suggest, past the stage where we can sit back and argue whether "the computer" should be used or not. Quite simply it is and will be for the foreseeable future. The argument has to be - for whom are these technologies being created and used, who benefits and who controls, what are the consequences, and how do we struggle against uses that are not in "our" interests. Note that I query whether there is a unitary subject about which it is useful to argue or that there is only a single optic or focus. Rather it is precisely by working out specifics that the arguments must proceed. We need more accounts of particular firms, groups of workers and users, environments and mentalities. Only then should we (that is "the active readership" - those prepared to participate in discourse rather than passively consume) begin to see what patterns emerge.

That said, we can only publish what people care to send in. If we only get over-generalised pieces then that's what you'll have to read. We can't afford to pay people to write to order - and I'm not too sure I'd want to read that sort of material anyway. Rather it has to be a question of enthusiasm and knowledge - and what better place to start from than yourself. Why not explain how you work with infotech - how it has affected work practices, union (dis)organisation, how factors such as sex, race, age etc are both inscribed in these new practices and whether there has been any substantial changes. Other people may wish to talk about how their leisure time has changed, or how their community organisation has improved its efficiency and so forth. Given the widespread use of info tech in our present society - the scope for experience sharing and analysis should be enormous.

Or have we become totally absorbed by infotech, has it become so much a part of our daily lives that it is impossible to think critically about it.?(Note infotech should, I suspect, be addressed as "them".)

As this issue has had such a long gestation period, we haven't really got any "news" to pass onto you. Also as Black Chip is now produced in rural West Wales, we no longer have such ready access to sources of news, and being out of circulation for so long has meant that we've probably been deleted from quite a few mailing lists. Also some of our subscribers may well have moved - so if you know someone who should have received Black Chip do let us know so we can send them a copy.

Those of you with good memories will remember that I've previously spoken about an anthology of earlier issues of Black Chip. This hasn't proved very easy to organise as many of the good articles I'd like to include were taken from publications that I believe no longer exist, which makes getting copyright argeements very difficult. (Copying 100 or so for a small circulation mag is one thing - but to relaese it as a commercial book is quite another matter.) Another problem would be the vast amount of retyping that would have to be done. So that project is hanging fire for the time being.

If you've got this far you may want to know how to contribute to this august journal. Personally, I'd prefer for you to send in camera-ready pages, A4 in size, single-sided on 80gm paper, leaving room at the bottom for a page number. Failing which we can cope with most file formats of PC, ST and QL word processors. This page and the book reviews were done using Professional Publisher on the ST, whereas others were done using First Word Plus on the PC. All output was printed via a Panasonic KXP-1124 dot-matrix printer. I'm afraid it'll be some time before we can afford a Laser printer. Another artifact that I'd like to employ is a Fax machine - so you could simply fax in your copy! We could even fax out Black Chip. Another avenue of communication is bulletin boards. If anyone can suggest a safe and ideologically sound one for us to use - we want to know. (Green-Net costs money - I'd like a free one myself - not least because phone calls are quite expensive enough from here.)

What else is there to say? I've not bothered with an advert for CGH Services in this issue, but if any of you are interested in QL, ST or PC Commercial or Public Domain software get in touch. For personal reasons I'm mainly into adventures, simulations, strategy and war games on the leisure side, and word processors and DTP on the more serious side. CGH Services actually publish QL software and we'd be keen to hear from people who have software we can publish or distribute for the QL, ST and PC. We can also offer cheap disks!

A final plea. I'd really like some good clip-art, especially for the ST. I can cope with Degas, Neochrome and Tiny formats - but IMG is not compatible with Publishing Partner.

Cheers! Richard Alexander (Editor and Publisher)

TOTALITY FOR COMPUTERS

Phil Mailer

"Hide it? But where? Everything is made of glass"
From "We", Yevgeny Zamyatin

"Arithmetic! Algebra! Geometry! that great trinity".
From Second Song of Maldoror, Isadore Ducasse.

Computers are the electronic nervous system of modern capitalism. Banks, business, the police as well as the State have developed them as a means to control the flow of information about money and people. In the sense that the power of this class society depends to a large extent on having this information at its fingertips, computers are subject to the same contradictions and inadequacies which produced them and become fair game to those who would dare subvert them.

Despite police propaganda to the contrary, everyone, especially kids, knows that computers are extremely vulnerable to subversion. I don't propose to give technical advice or how-to-programs in a public article and all I intend here is to list some examples of creative sabotage from around the world. Readers who wish to carry out any of these experiences can acquire this knowledge fairly easily by reading some of the hackers' newspapers or by talking to someone with access to the right hardware and software. Hackers have grown in numbers all around the world and the information they possess is not so confined to the high-priests of the new technology anymore, or not as much as it used to be.

USES OF COMPUTERS....

If we first look at what computers are used for we can have a clearer idea of what the problem is. Historically the first major use of computers by modern capitalism was in population control and Hollerith's Tabulating Machine (1890) was used to process census data in the US at the beginning of this century while the ENIAC (1946) and the UNIVAC (1951) were essentially military weapons. But the real technology of the micro-chip was first used by banks for that favourite task of capitalism; counting money. When computers cost millions of dollars to build, only the largest corporations or governments could afford them. While integrated circuitry and 32 bit chips have made computers more readily available, the really large systems are still controlled by large banks, credit companies and governments. But the difference is that access to these large computers is easier.

Computers now can move money electronically, store information about people and their whereabouts, their taxes, their credit ratings, their home addresses and telephone numbers. They are so widely used by the police everywhere that routine checks of driving licences etc can be radioed into a central computer and a host of information about the driver can be had in a matter of moments; (This happened recently to a NY driver known to this author picked up in NC). Computers have been used to monitor job performance in work situations, they can monitor the use of telephones at the office, the presence of people at work stations and the frequency of their errors. This type of computer surveillance is best suited to offices (where data entry and terminals abound) but monitoring of all work, that Fordian nightmare (which Lenin praised so much) has been extended through the use of computers to just about every level of society - including even it most trusted cadres - commodity brokers, programmers and bank-loan officers. A Congressional Office of Technology Assessment report (New York Times 9/28/87) estimated that 4-6 million clerical workers were evaluated at the workplace by computers and that another "1-2 million technical and management workers were also under surveillance." The report pointed out how computers were being used to set standards for certain tasks, to monitor and evaluate individual performance.

"I have read and heard many incredible things about those times when people still lived in a free, i.e. unorganized, savage, condition. But most incredible of all, it seems to me, is that the state authority of that time - no matter how rudimentary - could allow men to live without anything like our Table, without obligatory walks, without exact regulation of mealtimes, getting up and going whenever they felt like it"

From "We" - Yevgeny Zamyatin

Perhaps the largest computer system in the world is the one run by the IRS. It is used to store information on some 100 million American citizens and their money and taxes. By use of social security numbers (which now even children over the age of five must have) they can bring up on their monitors a range of information; such as the name of your employer, your salary, your present and former addresses, your marital status, the name of your children and your phone number and lots more. The IRS has to be the US counterpart of the Russian KGB; whereas the KGB control people through a variety of identification cards and state programs, the IRS control people through their money. The files are stored on electromagnetic tapes and copies of these tapes have been buried in underground caves in the event of a nuclear war so that the "survivors" can be monitored when they emerge from their fall-out shelters. Guidelines published by the IRD in the event of a nuclear war advise citizens to bring their latest 1040s with them to the nuclear shelters so that they can be duly processed afterwards.

The IRS is a veritable Big Brother employing 150,000 workers and there is no Congressional/Legislative or other control over their activities; they need answer to no-one. Through their sophisticated network they request and receive information from Banking central computers. More than the often criticized CIA and FBI, the IRD is the real brain centre of US capitalist control and its computers are one of the important mechanisms which help ensure it.

Perhaps the next largest user in the world is the INS (Immigration and Naturalization Services) which control the flow of legal and illegal immigrants into the US. The new immigration law (1988) requires that employers report the names of all foreign-born workers plus proof of their legality and the INS can pull up and compare files. The process of checking and double-checking which used to take months can be accomplished in minutes. Clearly there is a growing interaccess between these two super-computers, the files of one being processed by the other - with all which that implies.

In the UK the power of police computers has increased a thousand fold. A "Police Network Computer" (PNC) was set up under the Labour Government in the 1970s but local police organizations have huge budgets for their own computers and these are directly linked and pass on information to PNC. International Airadio (IAL) has been the chief supplier of police computers and Thatcher's secret state-network has paranoiacally advanced almost unchecked over the last half-decade. In a recent article almost hidden away in the pages of a British science magazine was a report about the computerized maps used by the national railways service, British Rail. Supposedly a means to decide where new railway stations should be built, the "geographic information system" combines maps with local information. A final paragraph in this report (New Scientist, June 30th 1988) reads like an Orwellian nightmare. "A pilot scheme at Redditch District Council lets planners start off with a map of the whole country on their screens, then zoom in on a particular ward, street or house and look at detailed architectural drawings of a particular building. Planners can call up the names and ages of tenants to plan social services or modernization of houses."

Tomorrow, a computer that starts off with a map of the whole world and them zooms in on someone's bed!

"I argued with myself: at night numbers must sleep; it is their duty, just as it is their duty to work in the daytime. Not sleeping at night is a criminal offence...yet try as I might I just couldn't sleep."

"We" - Yevgeny Zamyatin

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HACKING

"And I ask you, hanging over the cliff of a fatal question mark, why is it that mathematics contains so many unquestionable truths, while that in man we can only find untruth and pride"

Second Song of Maldoror, Isadore Ducasse.

In the early days of personal computers, hackers were the pioneers of the micro-chip era. Coming out of the "telephone phreaking" network and such pioneers as Captain Crunch (who had discovered, with real scientific methodology, that the tone of a whistle offered in a cereal box was exactly that of the 2600 hertz used by AT&T for long distance calls). Since telephone play (with a modem) became such an important aspect of hacking one just cannot ignore this early "hacking" of telephones, the "black boxes" and "yellow boxes" and credit card number codes, which proliferated at the time. The first "telephone phreaking" newsletter was a Yippie publication called the "Youth International Party Line". (YIPL).

While larger companies such as IBM or Digital wanted to control the market with their own machines, a number of entrepreneur-technicians emerged in the early 70s out of the failed social movements of the 60s. At the beginning, these entrepreneurs brought some of the subversive values of the late 60s with them, sharing information, software and they saw themselves as against any attempt to privatise or monopolize it. As money, and ever bigger money, came into the picture, many of these early hackers-turned-business people moved away from hacking and begun to defend, to use the works of Stephen Woz, the "idea of making a just profit". Stephen Woz, from Apple Computers, in an early yuppie saga which probably had more to do with Time magazine than any real basis in history, sold his hippy VW van to buy electronic parts. These entrepreneurs quickly took over much of this activity, setting up private companies, enforcing copyright laws etc.

But a group of people with technical information is like any other group and contains all the different societal components within it, like any group. A growing number of users - either because they bear grudges against a particular company or because they feel - like Bakunin, that destruction is a creative urge - share these codes and information about how these codes are constructed (like the sequence of digits, for example). Knowing the structure and the general parameters on which the code is based they can use the computer's speed of trial and error to "hack" their way through the myriad of numbers and commands used to write and read a file. There are publications devoted to the proliferation of these codes; like The Computist, run by unpaid staff members, (PO Box 110846-T, Tacoma WA 98411) or 2600 (PO Box 752, Middle Island, NY 11953-0752) and even such eccentric and offbeat publishing house like Paladin Press or Loompanics (send $2 to Loompanics Unlimited, PO Box 1197, Pt Townsend, WA 98368 for a highly contradictory selection of unusual books on topics ranging from false ID to getting even to hacking; unfortunately they have little sense of history). Many of the hackers are young males (although there is the occasional female involvement as well as occasional older hippie types who have been forced to use computers in their jobs and seem inclined to hacking). They communicate through these magazines and Users Groups and Bulletin Boards. What seems to unite them is the challenge of breaking down the barriers and gates that the large mainframes put up to keep out unwelcome intruders.

It starts with piracy of software and soon goes on to the harder stuff. Actually piracy of software (a particular piece can cost hundreds of dollars if you buy it in a store) is a billion dollar activity. Like the shop-lifter the hacker has an instinctive critique of the commodity system. Most people prefer something for nothing and it has been demonstrated repeatedly that stealing is not only a sociological but a psychological activity. People with hundreds of dollars steal from Macys while owners of thousand dollar systems will steal $100 dollar pirate programs. Whatever superego programs are out there temptation is still just too great. Copy programmes which can read the parameters of the original software (or "nibble editors" which can discover them) can avoid the "copyright" pitfalls built in by the publisher. Software companies have attempted every kind of method (like fine recording on half tracks or quarter tracks which might be difficult for the vulgar disk drive to copy) to protect themselves but piracy of every method they devise has encountered new methods to subvert it. There has not been a

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software program devised yet that has not been broken into and copied somewhere. The more the technology attempts (and much of the research is spent here) to protect private property (copyright) and the more secrecy they employ, the greater the challenge. Most companies, even the largest, like Lotus, Microsoft or Broderbund are just grasping around the edges of the problem. And since most pirates have pseudonyms (like The Cracking Company, Master Outlaw, etc - one I particularly like is Softkey Shuffle), it is kind of difficult to call the cops.

Another activity popular with hackers is related to the "Bulletin Boards" which are central files which users can access from separate terminals. Business people use them to relay messages about appointments, money transactions, customers service date or the maintenance of inventories. Hackers use them as a kind of "personal ads" system, exchanging free software, softkeys or other relevant information. There are thousands of such bulletin boards and while every major company has one there are as many such boards held together on a much more ethereal basis.

The modem connects the client (or outsider) to the Board. Once in, the user can wreak havoc in the information stored. In 1983, hackers broke into a message machine called Telemail, run by GTE Telenet Communications Corp and used by some of the Fortune 500 companies. The service was used for memoranda, listing of price changes and inventories. A code of 7 digits had been discovered on a trial and error basis rather like the "War Games" scenario. They were able, said the FBI "to manipulate the computer so that they could create accounts like those of the major companies and exchange messages among their friends, like they were business executives" (NYT 10/16/83). When they began to exchange the passwords of some of the paying customers thus, effectively, blocking them out and even deleting information, the FBI moved in with telephone taps and traced the phone calls to some fifteen or so teenagers spread out across the country. Most of them had never met but had merely exchanged information over their computers.

When, in Detroit at the same time, the FBI seized documents from a 14 year old, who had entered Defence Department computers, there was an outcry from the Media and from Congress and new legislation was rapidly passed to protect information as property and unauthorized retrieval of information as theft. The legislation was rushed in and while it has been used, it still really has to be tested in the courts. Take the recent case against the 23 year old Cornell student who sent a virus into Sendmail and from there gained access to Arpanet, the Defence Department's National Network, and successfully jammed some six thousand major computers all over the country for over three days. In this case, Robert T. Morris, who had a father who was a Computer Expert and lived in a fancy mansion, was able to get off the hook because it was assumed that the was just playing around. The next person to try wasn't so lucky. Kevin Mitnick, father unknown, is held without bail facing 30 years prison for stealing a game from Digital Computers, the first person to be tried under this law which prohibits breaking into interstate computer networks for "criminal" purposes. Obviously they want to throw the book at someone. Mitnick has a history of hacking. In 1980 he entered Pacific Bell's computer network in an attempt to make public some electronically controlled technical manuals, getting 6 months for the caper. The judge who sentenced him found that his own computer credit rating had been down-graded and a probation officer assigned to Mitnick had his phone cut off by some strange computer instruction. In 1987 Mitnick was convicted of having stolen software over the telephone from a Santa Cruz company. It appears the conviction he got then and the 36 month probation sentence was wiped out of police records by some strange lapse of the computer.

The first publicized cases involved information as information and there have been many similar cases since. The most notorious has been the case of the West German hackers (called spies by the FBI, in an attempt to stem the popular feeling that these people are some kind of modern-day Bonnie and Clydes). Some young people in Cologne broke into a Defence computer in the US and changed some of the information related to the control of satellites stored therein. (Certain members of German hacking clubs have recently admitted to spying for the KGB - Ed.)

Before that there had been cases of computer crime which involved computers to move money from one bank to another, such as the infamous Wells Fargo robbery in California where a federal prison inmate on a computer training course used a prison computer to transfer $1

million from various accounts to a newly opened account in another bank. The master mind recanted and was hired by Wells Fargo to prevent others from doing the same thing. Other examples of this kind of hacking have involved cases of company employees skimming sums of money from clients and transferring it to other accounts. Small routines in the company's program - inserted and buried by one of the programmers in such a way that it would hardly be noticeable by other programmers and certainly not by anyone who was not a programmer - could skim off the few cents from customers, so small that it wouldn't be noticed but on a scale that made it worthwhile.

The response has been draconian with vicious crackdowns on playfulness and the co-opting of young hackers - offering large rewards for policing and the denouncement of hackers. The old divide and rule tactic.

"The door closed with a slow thud, then 1-330 slowly, slowly pressed against me with her shoulder, arm, all of her, plunging a sharp sweet needle deeper into my heart and we walked together, the two of us - one."

"We" - Yevgeny Zamyatin

A MORE VICIOUS BREED : TROJANS AND VIRUSES......

More recently new types of nihilist hacking have emerged. Hackers have designed sophisticated software programs that erase and scramble the computer files in a central computer. These programs known as Trojans (from the idea of the Trojan horse) or else viruses, contain codes which once accepted, begin to "open" files in the computer system, "write" to them and then "close" them again. Effectively one of these programs can destroy hundreds of files in the space of 15 minutes. Depending on the computer language used (C, LISP, PASCAL, or more effectively, Machine Code - but some have even been written in BASIC) they generally pretend to be something other than what their name implies and are often hidden away as sub-routines in another program. They are presented on bulletin boards as games or as a tool like a word processor or spreadsheet or database. Some of these programs begin their task of destruction immediately - as soon as someone accepts them into their own computer (or the computer of their boss). Others function quietly as a game or as a file for weeks before they begin. A hard disk (the more sophisticated electromagnetic disks which can store anywhere between 400-1200 pages of single spaced typewritten data (bits)) can be written over, much like a music or video tape can be taped over, making it very difficult to retrieve the original information. Some of the trojans flash messages on the screen "Ha, ha I'm deleting all your files" and proceed to do just that. Others can behave like some enchanting game or maybe even a calendar-clock but actually rename all the files on the disk or begin to write garbage on key sectors of it, such as the File Allocation Table or auto-boot programs.

"O Holy Mathematicians, by your ever-lasting business, I am consoled for the rest of my days from the evil of men and the justice of the Almighty"

Second Song of Maldoror - Isadore Ducasse

Like the gun-toting outlaws of old who cut into the profits of railways or banks there is even reward-money from certain software companies for information leading to the identity of these trojan warriors. Just one example in recent times is Quicksoft of Seattle, who have offered $2,500 for the name of the person who twisted a copy of their popular "PC Write" into a trojan. Trojans began to appear about 1986 and some of the most infamous of them started out with names like "SCANBAD.EXE" or "FUTURE.BAS" A list of trojans is kept by the guardians of most business systems and bulletin boards but since the names keep changing all the time and since it is easy to substitute a trojan for a real file, it is impossible to keep up. Anyone who has access can place a trojan in a company computer.

But trojans in general have certain limitations. They must be accepted by the host computer (or placed there by someone with the entry codes), just as in Troy someone had to open the gates. But a new type of program called viruses have more scope and application.

A virus can be phoned into a computer system from outside without the system knowing where it is coming from, rather like a prank telephone call. It can clone a copy of itself and bury this in already existing files. Thus when an operator sees a strange file they delete it or destroy it but not the clone which has established sub-routines in other legitimate programs. They destroy the appearance of interference but not the interference itself. The cloned virus remains and like an uninvited trojan can either begin its destructive work immediately or at a given date in the future. Even when a user suspects that something is going wrong it is difficult to tell just what exactly the offending code is and operators must run diagnostic programs to find it. Viruses are already at work in Defence Department computers and there has been a huge investment of resources to discover them. The IRS has also been infected. Using fictitious names people have incorporated viruses into the Tax Software programs which call them in. It is unknown just how many IRS files have been destroyed in this way but, given the general unpopularity of the IRS, most Americans would hope the number would be high. (In the U.K. there have veen persistant stories to the effect that viruses have been planted in the databases holding information needed for the unpopular "Poll Tax", which result the names of dead people being used to replace those of the living.)

One of the most curious examples of an infectious virus code was spread throughout Israel over a period of two months in the Autumn of 87. The virus contained a "time bomb" which on May 13th 1988 would have caused all the infected programs to erase all stored files at the same time. A computer graduate, Yuval Rakavy, discovered the code and fine citizen that he was duly informed the secret police, Mossad, and proceeded to dismantle it. May 14th was the 40th anniversary of the foundation of Israel (but May 13th was also a Friday - hence the Friday the 13th connection). Some problem in the code of the virus was noticed by a computer professor at the Hebrew University, who saw the programs growing in size before his very eyes and crowding out tapes and hard-disks which had barely been written to. The virus had infected itself and like a cancer began to grow and grow and the amount of space on new disks dwindled. (Ed(again): Many of the popular computer journals have carried lists of known viruses, the latest being in New Computer Express 12/8/1989 pp18-19. Ironically it is the usage of pirated software which leads to the highest risk of "infection" from viruses, resulting in many "pirates" loosing their entire collections of software.)

"It was unbearable to look at them - at those whom I would in an hour, with my own hands, eject from the comfortable figures of the Table of Hours, tearing them away from the maternal breast of the One State. They reminded me of the tragic figures of the "Three Excused Ones" whose story is known to every schoolboy. It is the story of how three numbers were, by way of experiment, excused from work for a month: do what you like, go where you like."

from "We" - Yevgeny Zamyatin

The recent virus at the Arpanet network of Defence Department computers was sent as a piece of electronic mail over Sendmail but hidden into the letter was the rogue program which reproduced itself hundreds of times on each computer in minutes, effectively jamming it. A part of the code would test to see if the virus was already present but to avoid some programmer defeating it by pretending that it was present, it was programmed copy itself 1 in 10 times irrespective of the answer. If it had been 1 in 1000 he probably would not have been detected, but 1 in 10 was too much and swamped the network. It was written for Unix DOS (Disk Operating System) and therefore only reached those Sun and Digital computers which used this DOS. The cost was estimated at some $96 million.

There are other viruses floating around and the ones for the PCs and clones are perhaps the most threatening since there are some 30 million PCs in operation in the US at the moment and if the PC is infected then it can corrupt the mainframe. And there is little that can be done about it. There are viruses which cling to the clock mechanism in the computer so that it functions even when the computer is switched off. There are even some that are known in computer science folklore as "vampire viruses" - programs which were designed to run very complex programs late at night while the computer's human users slept. When the humans returned in the morning the vampire programs would go to sleep, waiting to return to work the next evening.

There are "anti-worms", programs meant to detect the presence of viruses but most function a little like closing the stable-gate after the horse has bolted. As the Chairman of the Computer Virus Industry Association, A Mr. McAfee, said recently. "there have been 800 large and small incidents in the last eight months. Many businesses are not willing to go public with their problems.... The most stringent procedure - telling people not to touch other people's computers or to use public domain software - is a little like telling people not to have sex in order to stop the spread of AIDS".

TOTALITY FOR COMPUTERS

So how can you start? Read the literature. Perhaps the best general hackers popular guide is still Hugo Cornwall's Hacker's HandbookIII (A British book published by Century and available from Loompanics in the USA.) Of course it all depends on the hardware you have. Chapter 6 on "Hackers' Techniques" is a good chapter to read when you feel lost; it contains a particularly good article on the UNIX DOS (from Bell Labs). But mainly you need to talk to other hackers, either in person or over a bulletin board. Another valuable source is the back numbers of 2600 Magazine.

The thing to remember is that a computer, like a robot, is just a tool made up of a bunch of micro-chips. Despite all the speculation (Alan Turing etc) about the existence of artificial intelligence, despite the spirit of science fiction which reigns, computers are just sand-castles, sand-castles which work. A hammer is a tool which you can use to drive in a nail; you can also hit someone over the head with it. Capitalist society builds huge computers which centralize and spy on people. They use them to hit people over the head. As someone who is writing this article on a computer I know that this is not the only use.

Computers are so necessary for capitalism that it is now impossible to imagine a future without them. The deprived capitalist imagination makes use of them in all the wrong ways and as such they are part of the variable capital of this deprivation. This usage is vulnerable and can be attacked.

If capitalism continues to use the computing power of these machines to centralize and control the lives of its victims, then the more these machines become loathsome and despicable to its victims, so the victims are forced into Luddite positions. Hackers know that the beanstalk must come down if the giant is to be killed.

An FBI plan, in existence since 1987, to develop its National Crime Information Center, proposes to track suspects not charged with any crime. The plan has been criticised by the House Judiciary Sub-Committee on Civil and Constitutional Rights, chaired by Don Edwards, Democrat of California. The FBI computer system is being prepared by Mitre Corporation, a systems engineering and research concern based in Bedford, Mass. Under the plan the bureau would track individuals not subject to an arrest warrant but under investigation. If such a person arrived in New York from abroad, for example, the system would be notified when the person went through customs. What other goodies does it have in store for us?

I could impart certain information I have about hacking here, more concrete things like codes and what passwords to answer things like LOGIN:. for example. But this is being done elsewhere in a more systematic form. And others have much more imagination that I have, certainly as regards hacking. You have to have a flair for it, certainly. Some people have it, some don't. Some people know other things. What is certain is that everyone knows how to do something. So let hackers do what they know best.

"This cannot be postponed, because in the Western Parts of this city there is still chaos, roaring, corpses, beasts and - unfortunately - a considerable group of numbers who have betrayed Reason."

From "We" - Yevgeny Zamyatin

Phil Mailer

WHY I DECIDED TO START AN ANTI-SEXIST SOFTWARE GROUP

BY

SANDRA VOGEL

For a while now, I have been getting more and more fed-up with the increasing amount of sexism in computer software, magazines and advertising. It seems to me that the objectification of women (that is making them, or specific parts of their anatomy into objects of male pleasure) has recently become a standard part of the computer industry. I am ST owner, and see the trend clearest in this format, bit it seems to be even stronger in 8 bit user bases, and is growing at an alarming rate.

There are really two reasons that I feel the treatment of women as objects is such a bad thing. The first is that it destroys the idea that women are individuals, and creates instead the idea that we only exist to please men. There is a good deal of evidence to suggest that violence towards women is at least partly caused by this kind of treatment. The use of women in this stereotyped way exists throughout the media, in fiction, in jobs, in fact in all walks of life, but in the software industry it is particularly harmful as it operating on the young, many in their early teens, whose ideas about the world are still being formed. (I am also against the stereotypical male image presented of the muscular, hard hero who always saves the girl/world/universe).

The second reason is that women make up a large part of the home micro user base - in fact there are many more of us than either software houses or magazines care to admit. Many feel the same as I do about the current state of software, and think their needs and wishes are being ignored by software houses, and want to do something about it.

So, the user group, OASIS, has been born. Specific campaigns will be run as and when members indicate something they're not happy about. There will be six newsletters a year, whose contents will be decided by the membership, and we will form a nationwide network for programming help, gaming help, airing our grievances, and taking positive constructive and well co-ordinated action. Hopefully we will be able to sell non-sexist software at cheap rates (I have some contacts already).

You don't have to be a woman to join the group - I am aware that a good many men don't like the way software is going, and barring you from membership would be doing exactly what the industry is currently doing to women. So the group is open to anyone who is committed to the idea of non-sexist software.

Membership fees will depend on the amount of response, but the group will be non-profit making, and the more of us there are, the cheaper it will be to join. Suggestions, enquiries, etc should be sent, with an s.a.e. to OASIS, c/o Sandra Vogel, 3 Alden Court, Stanley Road, Wimbledon, SW19 8RD. (Bung Sandra £5.00 for starters if you want to join - ED)

NOTE: I have already received the first issue of OASIS (Organisation Against Sexism in Software)'s newsletter, and whilst the quality of production leaves a little to be desired, the content is quite interesting. I was pleased to see two of the doyens of the adventure world - Linda Wright and Pat Winstanley - writing in to show their support, and Audiogenic seemed to make the right sort of noises of support also.

Black Chip, is very supportive of this initiative, and we'll happily co-operate with OASIS if requested so to do. CGH Services, as software publishers, will happily consider any non-sexist software for publication on the QL, PC and ST. (The only formats we can handle.)

XEROX AND INFINITY

BY JEAN BAUDRILLARD

If people create or have fantasies of intelligent machines, it is because they secretly despair for their own intelligence - or because they succumb to the weight of a monstrous and useless intelligence; therefore they exorcise it into machines to enable them to lighten this load, and laugh about it. Entrusting this intelligence to machines in some ways sets us free from all pretensions towards exhaustive knowledge, just as confiding power to politicians allows us to laugh at all pretensions at government.

If, against all the evidence, people dream of original and brilliantly thought-out machines, it is because they despair for their originality, or prefer to part with it in favour of the sheer pleasure of machines that grant this by proxy. Initially, what these machines offer is the spectacle of thought, and people, as they manipulate them, devote themselves increasingly to this spectacle of thought than to thought itself.

We do not call them virtual for no reason: for they maintain thought in indefinite suspense, liked to the deadline for exhaustive knowledge. Here, the process of thought is indefinitely postponed. The question of thought can no longer be asked of them, nor the question of freedom for future generations. They will cross over life as if it were airspace, fastened to their seats. And thus the people of Artificial Intelligence will cross over their mental space fastened to their computer. The Virtual Person, immobile in front of their computer, makes love by the screen and gives classes by teleconference. He becomes a spastic, probably with cerebral handicap as well. This is the cost of becoming effective. Just as we can suggest that glasses or contact lenses might one day become an integrated prosthesis of a species whose gaze will have gone, so can we fear that artificial intelligence and its technical aids will become the prosthesis of a species whose thought has disappeared.

Artificial Intelligence is without intelligence, because it is without artifice. the genuine artifice is the artifice of the body in a state of passion, the one of the sign in seduction, of ambivalence in gesture, of ellipse in language, of the mask on the face, of the shaft which alters meaning, and which for this reason we call the shaft of wit. Indeed, these intelligent machines are only artificial in the weakest sense of the word - decomposing the operations of language, of sex, of knowledge, and in their most basic elements, of digitalising such operations to resynthesize them according to models. To generate all the possibilities of a programme or of a potential object, when in fact artifice has nothing to do with the generation, but the alteration of reality, is the force of illusion. Once again, these machines have only the ingenuousness of sums and operations, and the sole games they propose are games of commutation and combination. This is why they can be described as virtuous, and not only as virtual: because they do not even succumb to their own knowledge. What gives then their virtue is their transparency, their functionality, their absence of passion and artifice. Artificial Intelligence is a celibate machine.

What will always differentiate the functioning of people and even the most intelligent machines is the ecstasy of functioning itself - pleasure. Fortunately, to invent machines that would recognise pleasure is as yet beyond our capabilities. All types of prosthesis may contribute to our pleasure, but we cannot invent machines that would accept pleasure by proxy. When machines are invented that are able to work, "think" or travel better than people can, there will still not be a prosthesis - technical or mediatized - for the pleasure of being human. To achieve this, machines would require an idea of humanity, but for them it is too late, it is humans who have invented them. This is why humanity can exceed what it is, while machines will never exceed what they are. The most intelligent are no more than exactly as they are, except maybe in accidents or failures, to which we can always ascribe an obscure desire. They do not possess this additional touch of irony in their

functioning, this excess of functioning which pleasure or suffering consist of, whereby people move away from their limits and closer towards their end. Unfortunately, machines will never exceed their own operation, which maybe explains the deep melancholy of computers... All machines are celibate.

(Yet the recent eruption of electronic viruses presents a remarkable anomaly: as if machines were taking malicious pleasure in amplifying, and even producing perverted effects, to overcome their finality through their own devices. There is an ironic and fascinating peripeteia (a sudden change of fortune or reversal of circumstances - SOED). Artificial Intelligence may be parodying itself with this viral pathology, thus unveiling some sort of genuine intelligence.) (Or maybe not, as all known viruses are of human construction, their is nothing "Artificial" about them at all. ED)

The celibacy of the machine brings about the celibacy of "Telematic Man" (we have kept this masculine as it does tend to apply more to men, ED.) Telematic is a French expression which neatly telescopes "Tele" and "Informatique" to cover the whole set of techniques and services which combine computer science with telecommunications. ED) Exactly as he grants himself the spectacle of his brain and his intelligence as he sits in front of the computer or word-processor, the "Telematic Man" gives himself the spectacle of his fantasies and of a virtual "jouissance" (an intense pleasure, as opposed to "plaisir" which covers the more mundane varieties of pleasure. ED) as he sits in front of his "minitel rose".(Minitel refers to the computer network operated via telephone links that has been offered free to every home in France - making it the most wired-up country in Europe, if not the world. The rose refers to amorous messages that make up a substantial proportion of the usage of this sytem. ED) He exorcises "jouissance" or intelligence in the interface with the machine. the Other, the sexual or cognitive interlocuter, is never really aimed at - crossing the screen evokes the crossing of the mirror. The screen itself is targeted as the point of interface. The machine (the interactive screen) transforms the process of communication, the relation from one to the other, into a process of commutation, i.e. the process of reversibility from the same to the same. The secret of the interface is that the Other is within it virtually the Same - otherness being surreptitiously confiscated by the machine. And so, would the most convincing circle of communication be the one used by the "minitelistes roses", who pass from the screen to the telephone exchange, then face-to-face, and then what? Ah.. well "we'll call each other", and we go back to the minitel., in the end so much more erotic because it is both esoteric and transparent at the same time, a pure form of communication, being entirely private but for the presence of the screen and its electronic text as a watermark of life: a new platonic cavern where one can watch the shadows of carnal pleasure pass by. Why talk to yourself, when it is so easy to communicate? (A passing thought - maybe another form of Virus, associated with the term AIDS, may have something to do with this, as well. People are becoming afraid of bodily contact - sex on the screen or telephone is safe.ED)

We used to live in the imaginary world of the mirror, of the divided self, of otherness and alienation. Today we live in the imaginary world of the screen, of the interface and the reduplication of contiguity and networks. All our machines are screens. We too have become screens, and the interactivity of people has become the interactivity of screens. Nothing that appears on the screen is meant to be deciphered in depth, but actually to be explored instantaneously, in an abreaction (a psycho-analytical term meaning the removal by revival and expression of the emotion associated with forgotten, or repressed ideas, of the event that first caused it.ED) immediate to meaning - or an immediate convolution of the poles of representation.

Reading a screen differs greatly from reading an expression. it is a digital exploration, where the eye moves along a non-stop dotted line. The link between the interlocutor in any communication, and the access to knowledge in information is of the same order: tactile and exploratory. The voice, in new computer sciences or even on the phone, is a tactile voice, a functional non-voice. It is not really a voice anymore, just as the screen no longer really has an expression. The whole paradigm of sensitivity has changed. This tactility is not the organic sense of touch. It only signifies the epidermic contiguity of the eye and the image - the end of the aesthetic distance of expression. We are drawing infinitely closer to the surface of the screen, our eyes as if disseminates in the image. We no longer hold the distance a spectator has to the stage: there is no more scenic decorum. And if we fall so easily into this kind of imaginary coma caused by the screen, it is because it creates a perpetual vacuum which we are requested to fill. Proxemy (derived from proxemics - part of semiotics, studying how animated beings, and humans in particular, utilise space.ED) of images, condensing of images, tactile pornography of images. Though paradoxically the image is still light years away. It will be a "tele-image". It is situated at a very special distance that can only be defined as IMPASSABLE BY THE BODY. The distance created by language, by the stage and the mirror is surmountable by the body - this is why the distance remains human and appeals to exchange. As for the screen, it is virtual, and therefore insuperable. it lends itself solely to this abstract form, communication, abstract forever.

In the domain of communication, words, gestures and expressions are in a state of constant contiguity, yet they never touch one another because neither the distance nor the proximity belong to the to the body in relation to its surroundings. The screen of our images, the interactive screen, the "telematic" screen, are all at the same time too close and too distant: too close to be true (in order to have the dramatic intensity of a stage), too far to be false (to possess the conniving distance of artifice). They thus create a dimension that is not exactly human anymore, an eccentric dimension corresponding to a depolarisation of space and to the indistinctiveness of body silhouettes.

There is no topology more beautiful than Moebius' to designate the contiguity of the close and the distant, of interior and exterior, of object and subject in the same spiral, where the screen of our computers and the mental screen of our own brain become intertwined as well. According to the same model, information and communications always feed back on themselves in a kind of incestuous convolution: because they operate in indefinite continuity in a superficial indistinction between subject and object, interior and exterior, question and answer, event and image - a contiguity that can only be solved in a loop, simulating the mathematical figure for infinity.

The same process is involved with our relationship to our "virtual" machines. The "telematic Man" is assigned to the set-up, in the same way that the set-up is assigned to him: by a de-evolution from the former into the latter, the refraction of the former by the latter. The machine does what its controller wants it to do, but a human, in return, only performs what the machine is programmed to do. The human is the operator of virtuality, and its approach, apparently, is merely to get informed or to communicate. But in reality its approach is to explore all the virtualities of a programme, just as a gambler aims to exhaust all the virtualities of the game. When using a camera, for instance, these virtualities are no longer those of the subject who "thinks" of the world according its vision, but those of an object exploiting the virtuality of the lens. In this perspective, the camera is a machine that alters all aforethought, that erases all intentionality and allows only the pure reflex of taking photographs to show through. Even vision is erased, for the lens becomes its substitute, in complicity with the object, and therefore with a reversal of sight. It is indeed this de-evolution of the subject into the black box, this devolution of its vision to the impersonal eye of the camera, both of which are magical. In the mirror, the subject plays with its imaginary self. In the lens, on screens in general, and on account of all the mediatized and "telematic" techniques, it is the object that "potentially" abandons itself, and it is the object's virtuality, and not reality, that

imposes itself in the image.

This is why today any image is possible. This is why anything can be computerised: that is to say, as something commutable in itself or in its own digital operation, just as any individual is self-commutable according to their genetic formula (all such work is going to consist of precisely exhausting the virtualities of this very programme - the genetic code - and that will be a fundamental aspect of artificial intelligence.) In concrete terms, it means that there are no more acts or events that are not refracted in a technical image or on a screen, not a single action not YEARNING to be photographed, filmed, recorded, not yearning to flow into this memory, and through this memory, not yearning to be eternally reproduced. No single action not yearning to transcend itself in virtual eternity - not as in death, which is durable, but as in the ramifications of artificial memories, which are ephemeral. The virtual compulsion is to potentially exist on all the screens and at the heart of all the programmes and this becomes a magical precondition.

And where does this leave freedom? In nowhere land. There is no choice, no final decision. All decisions concerning networks, screens, information, communication, are serial, partial, fragmentary, fractal. The succession only of partial decisions, the microscopic series of partial sequences and objects, constitute the course of both photographer and "Telematic Man", or the course of our most trivial televisual reading. The structure of all these gestures is a quantum one: It is an uncertain set of dotted-line-shaped decisions. And the fascination in all this comes from the dizzy spell contained in this black box - from this uncertainty that terminates our freedom.

Am I human, am I a machine? There is no longer an answer to this anthropological question. Hence this is the end of anthropology in a way, itself surreptitiously confiscated by the most recent machines and technologies. Anthropological uncertainty born of the perfecting of machine-like networks - just as sexual uncertainty (am I a man, am I a woman, and how about sexual difference?) arise from sophisticating techniques of the unconscious and techniques of the body, SOPHISTICATING THE UNDECIDABLE. Just as radical uncertainty, as far as the status of the subject and the object is concerned, arises from sophisticating the analyses of microscience.

Am I human, am I a machine? In the relationship between workers and traditional machines, there is no ambiguity whatsoever. the worker is always estranged from the machine, and is therefore alienated by it. The worker keeps their precious quality of alienated humanity to themself. Whilst new technology, new machines, new images, interactive screens, do not alienate me at all. With me they form an integrated circuit. Video, TV, computer, minitel, like contact lenses, are transparent prostheses as if they were integrated to the body - to the point that they become a genetic part of it, like pacemakers, or the famous "papoula" of Philip K. Dick, a small advertising implant grafted onto the body at birth which serves as a biological alarm. All our relationships, intentional or nor, with networks or screens, whatever they are, the form of communication is of the same order: that of a subservient structure, which is not alienated, and also that of an integrated circuit. Here, the quality of being human, as opposed to being a machine, is undecidable.

Would the fantastic success of artificial intelligence not come from the fact that it sets us free from real intelligence? From the fact that by giving the operational phenomenon thought a hypertrophy, it sets us free from both the ambiguity and singularity of thought? And from the irresolvable enigma of thought in relation to the world? Would the fantastic success (yet to be forced and solicited) of all these interactive technologies not come from their function of exorcism, and from the fact that the eternal problem of freedom can no longer be asked of them? What a relief! With virtual machines,

no more problems! You are neither subject nor object, free nor alienated, no longer one or the other: you are the same, in the rapture of their commutations. We have passed from "the inferno of others" to the ecstasy of the same, from the purgatory of otherness to the artificial heavens of identity. Would that form the basis of a new type of freedom? Some will say a new type of servitude, but the "Telematic Man", since he does not act of his own will, could never be a serf.

An immense uncertainty is all that remains. the uncertainty at the very root of operational euphoria, resulting from the sophistication of networks of information and communication. Science has anticipated this panic-like situation by making a principle of it: the greatest approximation of subject and object in the experimental interface, and the fading of their respective positions, generates this definitive status of uncertainty - as far as the reality of the object and the objective reality of knowledge are concerned. Maybe this is science's progress, but it is no longer an objective process (how could it be objective, when neither the objects nor the results of science themselves represent objective progress any longer?). This is the very kind of progress that frees science from objectivity, which definitively distances it from the real world and from the real world and from its own finalities. this is fascinating, forming the nucleus of a situation that today seizes all human strata: political, social, sexual, economic. Uncertainty, in matters of the economy, when it is precisely linked to the triumphant resurrection of "discipline", becomes a cheerful thing instead. But just as the sudden and fabulous expansion of communication and information techniques is connected to the undecidability which circulates in them - the undecidability of knowing whether there is knowledge in there - so the undecidability in communication is knowing whether or not it is a genuine form of exchange, a real form of exchange. I defy anyone to decide this - rather, to go on to believe that all these techniques finally lead to a real use of the world, to real encounters, etc - even so, if this is an attempt to return to the real, why leave it in the first place, and why this immense detour? No one understands the stake of these techniques any longer, if they are assigned such a weak objective. No, the crucial stake, and the actual one, is the game of uncertainty. Nowhere can we escape it. But we are not ready to accept it, and worse still, we expect some sort of homeopathic flight of fancy by reducing this uncertainty with yet more information and yet more communication, thereby aggravating the relationship with uncertainty. Again, this is fascinating: the race-chase of techniques and their perverted effects, has started, the race-chase of humanity and its virtual clones on the reversable track of the Moebius Strip.

SOME THOUGHTS ON PROGRAMMING

Mavros Black

These notes are a variation on the theme of "is technology neutral?" and specifically asks "are programming languages neutral?" To start off I'll be precise about what constitutes a programming language; a programming language is a piece of software that enables a computer user to enter a list of instructions in a specific order to make a computer do something. Superficially a programming language may resemble a human language in that it has a distinct vocabulary, grammar and syntax, but there the similarity ends. A programming language is also usually machine independent, so that the language does not depend entirely on the machine that is running it (see note 1). Any good text book will provide more in the way of definition and examples (see bibliography).

Back to the question: are programming languages neutral? Quite simply my answer is a big flat NO! And before I expand on that I should make clear that I enjoy programming a good deal and do it fairly regularly, I am definitely not a technophobe. Each programming language is designed to reflect on the way that we think. The aim is to solve our problems using computers, the language is the means by which the problem is put to the machine for solution. The emphasis is firmly on the process of turning our problem into a suitable form for programming. This means breaking down the problem into sub-units, working out what the little bits do and then solving the problem piece-meal. The subtle implications are that "real life" is like that and secondly that the program is the correct way to think. The emphasis is very much on a rigid and logical way of doing things.

The fact is that most (all?) of us do not think the way that computer programs work. We do not start at point A and move to point B in a straight line. Human thought processes are a good deal messier and more complicated than that. but programming requires us to think like machines. It's this point that convinces me that programming languages are not neutral. Think about it. You have a real problem to solve, to solve it you must chop up real life into small blocks, you have to order your thought processes into arbitary and mechanical order.... Does that sound neutral ? And if that weren't enough, it is implied that these mental contortions are how we should think. Yuck !

Each language has its own style and this, in part, reflects on the aims and philosophies of its designers. For example PASCAL is the foremost educational language in the world. This language is taught to students in Colleges, Polys and Universities all over the world and is used to teach programming. It's possibly the best example of the sort of language I've been going on about. It has tortuous syntax, it forces you to break down a program into small cog-like blocks. It's a real straight-jacket of a language, its structure and the fact that it's compiled (see note 2), give the user no freedom at all. I've used a couple of verrsions of PASCAL and both have been totally constricting. BASIC is fairly different from PASCAL and is pretty much frowned upon by software engineers and academics. These days it's truer to speak of BASICs as the language seems to have mutated into thousands of dialects. It is the language most people learn when they first get into computing. It's still not a very natural language to use, it doesn't attempt to mirror how people think and doesn't leave much room for people's creativity to burst through. Thankfully it's free of the fixed structure and deadening syntax of PASCAL. It's also pretty slow and the versions I've used are hardly powerful. Try it, but then try something else.!

LOGO seems very popular among people teaching school-kids, it allows user defined functions and is good for graphics. Unfortunately I've never used it, so I'd be interested to read reports from LOGO-users. The most fashionable language of the moment seems to be C. This language occupies a half-way position between high-level and low-level languages (see note 3). This is because it has the same kind of highlevel structure and commands of high-level languages but it is also flexible enough to give low-level bit instructions, input/output etc. Said by experienced users to be very powerful and, though I've never used it, the results I've seen are very impressive. Current bargains for PC users include ZORLANDS C for only #30, (beleive me this is cheap), and BORLANDS TURBO C at about #60. QL users can get a C development kit for #79 from Metacomco.

Finally if programming languages aren't neutral, are they all bad? Not necessarily. As programming languages go, I've found one gem so far. APL is simply unlike any other language. It stands for A Programming Language, it suffers from having a different character set than other languages - on first sight it's all funny symbols and bits of Greek (sounds like algebra to me - Ed). But don't let that put you off. This is a powerful tongue (!), it works on data in parallel (even on serial machines like home micros and PCs). It's interpreted and totally interactive. It won't "think" like you do, but it is the most natural language you'll come across at the moment. It's also not taught on any computer course that I know of. The bug (pun intended), is the price of APL. APL PLUS/PC costs #475, MICRO APL is #200 for the Amiga and #170 for the Atari ST. QL users can get APL from Metacomco for a mere #85 ! However for those who venture into the Public Domain, you may be able to get hold of I-APL, which is available on the PC and the Beeb, and which may also have been ported over to other computers. Contact the British APL Association, c/o Specialist Groups Officer, The British Computer Society, 13 Mansfield Street, London W1M 0BP for more details.

Software engineering paradigms, even more than programming languages, embody a distinct world view and this too would be worth looking at. Perhaps another of Black Chip's readers would like to write about Object Orientated Programming, Data Structure Design and Data Flow Design.

One other thing that has struck me recently is the attitude of programmers to the languages they use. This doesn't really fit in with the rest of my argument but it is interesting that C programmers are dead macho about their language, anything but C and assembler is "pansy". Pascal programmers seem to revel in the straight jacket of the language, the structure is the message. BASIC programmers usually start by apologising for using BASIC. APL'ers have a reputation for being difficult. In fact a recent paper was entitled "On Red Herrings and Anarchists or How to Manage APL'ers.

After all that I hope I haven't put anybody off programming. One of the big kicks in programming is getting the bastard machine to od what you want. It's the challenge of mastering the beast that makes it fun. But sometimes it does feel as though it's you that's being programmed and not the machine.

NOTES

1) I'm talking specifically about high-level languages such as PASCAL or BASIC and not about low-level or assembly languages. The latter are largely functions of the design of the micro-processor in the computer. High-level languages are a step up and to the user should appear to be independent of the processor used. (Although most machines need specific input/output and graphics routines - Ed).

2) Read note three first. Compiled languages wait until you've typed in the program. Then, when you are ready to run the program, a special program called the compiler runs through looking for errors, spelling mistakes, syntax errors etc. If successful your program is translated into machine code which can be run whenever you want. If unsuccessful your program is not turned into a machine code file but returned with a list of errors (or error codes). A good compiler should be fast and also able to anticipate and take care of simple and common errors. An interpreter works by translating each line of your program into machine code when the program is run. Each line is translated when it is used in the program and so errors on these lines will be returned when the line is used. Interpreted languages are usually slower than compiled ones because translations must be made each time the program is run whilst a compiler does the job once. However interpreters are much more interactive, it's easier to change the program, etc. Ideally you would have a language that is interpreted until you were satisfied with the result and then compiled to give you a superdooper fast result. So far as I know this starting to be done with some APL's, but I don't know about any other language. The process isn't as simple as it sounds.

3) Machine code is the lowest level of computing language that exists, consisting of '0's and '1's that signify the voltage levels at the inputs of a micro-processor. Asemmlby language is a way for people to program machine code a sit consists of mnemonics for machine operations. Assembly language is a low-level because it's so close to the machine level. It's also a bastard to program, but very fast. High-level languages are easier to program as they are removed from the machine level. Each command in a high-level language may consist of several machine code commands or routines. High level languages must be translated into machine code for execution. This can be done either by compiler programs or interpreter programs (goto note 2).

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RECOMMENDED READING

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EDITORIAL COMMENT

I'd like to thank Mavros for his opening up of the subject of computer languages. It would seem that there are several avenues opened up here: relation of computer languages to human languages; the ability of languages, both human and computer, to express human thought processes; the terminology employed by computer languages; the comparative suitability of differing computer languages for different tasks, e.g. why is ADA so useful for military uses; and so forth (pun intended). Let's be hearing from you !

SQUATTING IN AMSTERDAM

by Simon Sheppard, with the assistance of Chris Swart and others.

Amsterdam is a special place. Within the city is a throng of diverse cultures all brought together by a common sense of the Dutch way of life. Here, squat evictions and hard drugs aside, the general morality is "do what you want so long as you don't harm anyone else" and tolerance is the name of the game. The grafitti is friendly and it's safe to walk the streets (but we won't talk about the Red Light district, which is full of and perpetuated by tourists). The standard of living in Holland is very high and Dutch people get 1000 Guilders a month (around £285) when unemployed with little hassle. Those who work seem to do half as much and get paid twice the amount as they would in England, which makes you wonder (if you didn't know already) what happens to all the wealth that is generated in Thatcher's Britain.

POLITICS

The squat scene is a mixed bag of people, quite a few take it very seriously and get involved in everything but at the other end there's no shortage of people willing to move into an existing squat, established by the work of others, and take full advantage of it. Because of this wide diversity there can be the appearance of an all too familiar syndrome: political in-fighting while forgetting who the real enemies are. Rather like slagging off Kinnock/Maxwell etc. when there are scum around like Murdoch and Thatcher. But that's a distinctively English/British way of looking at things, in Holland (and indeed several of the more civilised European countries) there is 'consensus politics' where a happy medium is reached which suits most people. In England it's strictly a confrontational system. The Class War.

Not that there's a complete absence of grief here in Amsterdam. Currently there are known to be 87 squats under threat since the city council has adopted a policy of trying to get squatters out and all the legal judgements are currently going against the squatters. Amsterdam council has a rule of thumb that you should not pay more than a sixth of your income on housing, this is a good idea and can mean that people are asked to leave council flats in the centre of Amsterdam because they've become too rich.

It's been estimated that 20,000 people are living in squats in Amsterdam, how accurate this is is impossible to say but you can certainly discount 95% of what's written in the English newspapers. Although there's been a policy of either evicting or 'legalising' the larger squats, particularly those in the centre, there are still plenty of squats around. Always a problem in the large central squats is the constant flow of people coming to Amsterdam and looking for a free place to stay - once, a pair from England turned up having been given the address from someone they met the night before in Trafalgar Square! Needless to say, any squat, once established, must quickly develop a unified effort to keep people out, since if this is not observed the house can quickly degenerate into a hang-out for drug addicts with things constantly being stolen from the house and worse. It seems that this lesson has yet to be learnt in a lot of English squats. Tales of

the groups of marauding idiots who regard a squat as an opportunity for a smashing-up and fire party have been received here with total despair.

SQUATTERS' NEWSPAPER

The official organ of the squatters is the Grachtenkrant, the squatters' magazine circulated to all the squats every two weeks or so. It weighs in at around 26 pages, duplicated, sometimes with bad news about all the terrible things that are happening in England. But there's quite a bit of that in the mainstream newspapers as well. Recently there's been some exciting activity in response to the latest drive to evict many squats.

MONDAY 20TH NOVEMBER 1989 - GREETINGS FROM TESSELSCHADESTRAAT !!!

Tesselschadestraat is the street, near to the Leidseplein, containing a small squat and one of several which has just had a court order for eviction. The favourite time for the police to evict squats is Monday mornings, early, since this is the time squatters are normally tucked up in bed. A plan was born to fight the police at their own game. There was a whole week's preparation and on the Friday paving stones were lifted and the street started to be barricaded. Preparations continued over the weekend but things really got going around 3am on Monday morning. By 7am there were three cars (Amsterdam Autofree! Every car is one car too many) ready to be torched. This was done and the police, having realised that something was afoot, arrived in force. They were greeted by 200 squatters dressed in balaclavas and crash helmets and equipped with eye goggles in case of tear gas.

Battles between squatters and police tend to be restrained affairs nowadays since some years ago a squatter died in police cells and there was a big uproar about it. They are even good-natured on occasion; pictures in the British Press don't reveal that the fridges the squatters are hurling at the police have on occasion been made out of polystyrene! Hence the battles tend to be highly strategic affairs, more a show of strength than anything else, and this one was a beaut.

Around 100 riot police, male and female, many the same age as the squatters, came with a bulldozer and a water cannon. The bulldozer went in first at one end of Tesselschaderstraat to clear the burning car barricade. It was met with a hail of missiles, home made bombs etc. from the squatters. Inevitably the police bulldozer cleared the way in the end but not before some entertainment as the driver got a bit hot and had to be showered with water from his friend driving the water cannon. Also, the police didn't like the journalist sneaking up to get good photo's so they got the water treatment as well. It was a comic sight as the water cannon could only redirect its stream of water very slowly. When the bulldozer cleared the other end of Tesselschaderstraat all 200 squatters made a concerted retreat into the house, crammed in against the windows and defying the police to shoot in tear gas. All except for one lone squatter who stayed outside for a while and took on the bulldozer on his own!

The police had got a radio into the house early on so they could negotiate, through this an agreement was reached between the police and all the squatters inside the house that they could leave peacefully.

This was the tensest moment as the squatters feared some skullduggery by the police. A demonstration then took place as the squatters retired to another squat some distance away. The repercussions of this action are still flying around; the mayor of Amsterdam is refusing to take responsibility. If the evictions continue there is likely to be more activities of this sort; a large squat in de Volkerakstraat is now starting up with a festival and publicity campaign.

SQUAT ART

The newest large squat in Amsterdam is the Silo, an enormous grain silo and storage place on the bank of the Ij (pronounced similar to "I"), the big river to which Amsterdam's circle of canals connect. To celebrate the establishment of the squat a performance was held there in November called EXILO. The vestiges of ancient machinery, pipes and cavernous rooms were lit by hundreds of candles and hired theatre lighting. There were around 30 simultaneous performances by individuals and groups creating a surreal atmosphere which was one minute funny, the next frightening. Alice in Wonderland characters circulated among several hundred visitors, a high level synthesised cacophony was wired to speakers hanging from the joists, in one large stone-walled room a drummer beat hypnotic rhythms and this and many other strange sounds were transmitted throughout the building by the huge grain tubes. Old 8mm projectors with film loops were strategically placed inside ancient machinery and in part of the attic, two headless men in white coat and tails played chess. A group of Russians from Moscow and Leningrad draped themselves in white sheets and danced among small fires on the walls of a jetty sticking out into the river around 200 metres away from the Silo, looking for all the world like a coven of witches in some satanic ritual. The river police came to investigate in one of their patrol boats.

The main performance area was in the grain storage area with shallow channels of water running down each side. Beside each of the channels were compartments, many of which were filled with some performance or display, musicians making strange sounds, a huge mechanical bird noisily flapping its wings, or human puppet figures gesticulating. It really was an impressive exhibition of what squatters can achieve.

FREE RADIO

Amsterdam's largest illegal radio is Radio 100 and it might be described as the prize of the Amsterdam squatting scene. Although it's now assisted by an assortment of people it was started by squatters and quite a few are still involved in it. The Radio broadcasts on 100MHz every day from 2-3 in the afternoon to the early hours, sometimes it runs all night which is great. It's completely non-commercial and all programme makers do their programmes voluntarily and pay a subscription to the Radio to cover costs. The organisational structure of Radio 100 is similar to how a squat house is organised. The station and the allocation of airtime is organised by public meeting. (In practice not more than twenty people turn up, which is just as well because large gatherings decay into chaos). This results in interminable meetings where large amounts of coffee is drunk, many cigarettes and joints smoked etc. etc. The station pays no broadcasting licence or royalties

and broadcasts EVERYTHING, you name it it's been done on Radio 100 (and often by the writers of this article). There's a unique style of music mixing and experimental sounds, completely lunatic humour, phone-ins etc., but although there is an extraordinary range of programmes the station manages to maintain its own distinctive style. The range of the station is a wide circle extending to just outside Den Haag which is a big broadcasting range. The station doesn't actually attempt to be fashionable but is intensely so nontheless.

The radical squatting scene consider Radio 100 to be rather bourgeois, certainly it's not the only free radio in Amsterdam, there's also the Vrije Keyser which transmits less often on 96.2MHz. Vrije Keyser is more political than Radio 100, with less music, and it's currently celebrating its 10th year. The Dutch Government generally leaves politically oriented illegal broadcasters alone but hits commercially run illegal broadcasters because they compete unfairly against the conventional stations. Two of the large mainstream stations in Holland, Veronica and TROS, started off as pirate stations. Even then, some time ago the Police raided Radio 100's secret transmitter site and stole the transmitter, but a backup transmitter was quickly brought into action until a new one was built. There's been a proposal discussed by the European Federation of Free Radios (FERL) to make 100MHz a Europe-wide free radio frequency. FERL, with which Radio 100 is associated, holds that "Each group of citizens wishing to establish a radio and broadcast its own programmes must have free access to the airwaves... the air belongs to everybody and is as indispensable as a carrier for the sounds of human expression as it is for breathing".

"EUROPE AGAINST THE CURRENT" FAIR

This Fair was held on the 15-17th September 1989 as a festival of alternative, independent and radical information providers. It was badly organised by all accounts and was held in the old Stock Exchange building. There may have been a few ghosts around as there was some disagreement (to put it mildly) about money during the Fair. In fact the over-riding impression gained from anyone who was there is a scene of complete pandemonium as a group of Italian anarchists arrived and refused to pay the entrance charge. They promptly stormed off to the Vrankrijk, the local squat bar/club/general watering hole and returned with a large band of squatters who stormed the exhibition. These events were covered partly by Radio 100 and also by a sporadic and highly irreverent radio station set up specially for the event. The scenes of excited Italian anarchists outside the hall demanding free entry have duly entered into squat folklore and are now joked about by all and sundry.

HACKING

There is phone hacking and computer hacking and evermore the twain shall meet. Several gangs of kids (and I mean kids) are into telephone hacking. They found a means to get into the Telephone Chat Boxes, the Dutch equivalent of British Torycon's 0898 numbers. With their touch tone diallers at the ready they also found circuitous routes through the modern automatic digital telephone exchanges to the international lines. Using a list of numbers recently published in the Amsterdam Hackers'

magazine, Hac-Tic, you can phone an American operator and ask the time for free instead of paying for the Dutch speaking clock. There are also some groups of older people who have a more high level attitude to hacking. They hack the microprocessor controlled luggage safes to show how unsuspecting tourists can (and often have) lost their luggage. They also publish magazine articles (to show how satelite TV broadcasts can be descrambled.

The most recent event of the Amsterdam hacker's scene was the Friday the 13th Virus Party which was organised by "the Godfather of the Silicon Brotherhood", a Dutch Computer Merchant and Publishing Mogul. Few people turned up, only around 50 at any one time while more would have been expected. There was a videophone link with the USA but the real novelty of the gathering was that representatives of the Police were invited (in true spirit they attended in uniform). This is rather a good example of the Dutch way of doing things. As well as Police Crime Prevention Officers and PR buffs, there were journalists, notable hackers and representatives from Hac-Tic. The significance of this Silicon Brotherhood organisation remains to be seen.

An earlier event was the Galactic Hacker Party which filled the Paradiso for a few days with computer terminals. Again, less than expected turned up and although there was still quite a few, this is characteristic of the hacking scene in general as the media coverage is out of all proportion to the actual importance of the subject. If one more boring sod walks in and starts talking about computer viruses I'll scream. The local view is that hacking is the pastime of computer yuppies who can afford big phone bills.

COMPUTER SQUAT

Amsterdam is the main location of Issue, a loosely knit but dedicated organisation which produces hardware and software for the Sirius microcomputer. It is defined as a "free organisation" to which people can drift in and out as they please. Issue started because everyone in the computer business ditched the Sirius (which is a very good MS-DOS non-IBM compatible micro) to follow on the heels of IBM, which they saw as being much more lucrative. This article started life on a Vicki (the portable version of the Sirius) and is being finished on an 896K Sirius with hard disc etc. etc. There's lots of Sirius computers in England, as well as around the world, and quite a few are now falling into the hands of charities and the like who get preferential treatment. And if Issue makes any money, it currently gets spent on :-

SQUAT MEDICINE

Institutions are safe, boring places because they move slowly, oh so slowly. The individuals within them are also not adverse to following hard on the heels of the latest fad, even if it happens to be dressed up in scientific jargon. Amsterdam squatters have their own group of doctors who practice from a squatted building and give their time voluntarily. Two things (both unfashionable subjects and hence neglected by others) have come to light as a result of the activities of squatters in Amsterdam. It's early days yet but while the medical profession believes in keeping tight-lipped at all times, we don't. So here goes.

The first concerns the very unpleasant Herpes Simplex Virus and its close relative, Varicella Zoster Virus. HSV causes painful recurrences of sores, vesicles, irritation etc. which can continue for many years. VZV is responsible for Chicken Pox in children which recurs in later life as Herpes Zoster or Shingles. Infection of the brain with HSV can be fatal although this form of HSV is more of a problem in the USA, where they have a big problem with viruses generally for all sorts of reasons. Some independent research has turned up a new treatment, centred around immunoglobulins, which can cure around 23% (or up to 68% for eye infections). Hitherto the disease has been regarded as incurable. This is a big step since once the cure rate is above 0% it's simply a matter of improving and refining the treatment to make it work all the time, and in any case the treatment is effective even when a complete cure does not take place.

The second area concerns the treatment of heroin addicts. Currently smack junkies are treated with Methodone because it is much less psychoactive and it has milder (but longer lasting) effects when withdrawing from the drug. A plant extract obtained from Africa can be used which gives the addict a 36 hour 'trip' after which both the physical and psychological desire to take heroin or cocaine is dramatically reduced or even completely removed. This results in withdrawal from heroin in many cases. The substances which are used in these new treatments of HSV and heroin addiction have already been used on large numbers of people and although care is needed during and after their administration, they are fundamentally safe. However none of these treatments are generally available as yet. Institutions they move slowly, oh so slowly. Contact addresses are given below for anyone who would like more information on these or other matters.

FINAL WORDS

Over here the temperature can get down to below –20 Celsius, its certainly getting cold at the moment and life can be very hard here for foreigners. In lots of ways Dutch people don't know how lucky they are, and in particular being free from the constraints of having to work to pay rent etc. while squatting provides a unique opportunity to do something genuinely worthwhile which unfortunately many waste. But in other ways the Dutch are the most open, honest and downright civilised people you could meet. If this sort of society could be achieved everywhere the world would be a nice place indeed.

Contact addresses:

Records or tapes to be played on the radio can be sent to:
Radio 100
Postbus 10096
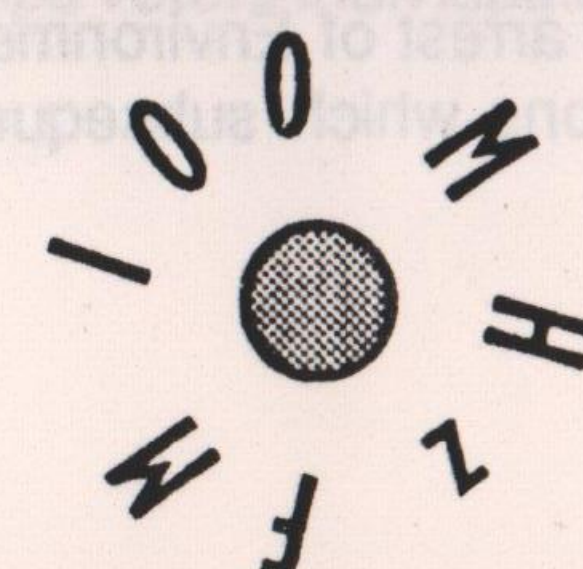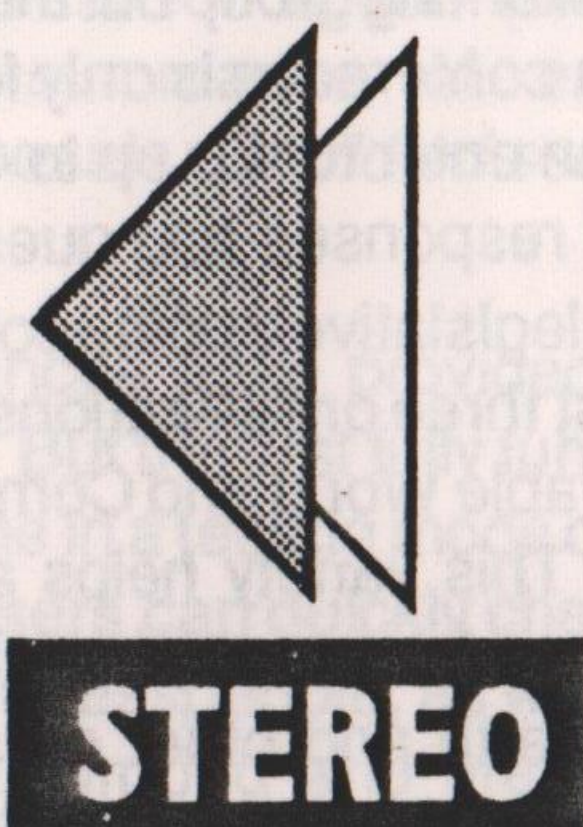1001 EB Amsterdam
The Netherlands

If there are any Sirius users out there:
Issue
Postbus 3707
1001 AM Amsterdam
The Netherlands

For information on Herpes Simplex Virus & Heroin Dependence:
Hires (pronounced Hi-rez)
Postbus 3707
1001 AM Amsterdam
The Netherlands

For contacting the Federation Europeenne des Radios Libres:
FERL c/o Radio IFM
6 rue Etienne Forest
38000 Grenoble
FRANCE

RADIO 100 Amsterdam

GIRO 5162096 t.n.v. de Stichting ter Bevordering van Vrije Meningsuiting, Amsterdam

RADIO 100, postbus 10096, 1001 EB Amsterdam, tel: 020 - 16 26 41

STEREO

OKTOBER 1989

MAANDAG
15.30 één Universum
new age programma
16.30 Raw Power
tony draait hardcore
18.00 De Kliniek
een sexprogramma
19.00 Grandmaster O Show
de nieuwste hip hop
20.00 Tam Tam International
niet westerse muziek met Henk en Bas
22.00 Le Beau
de grootste bek van Amsterdam, tevens muziek
24.00 Sprookjes met valentijn
(eerste week van de maand)
Mars Aktua
therapieradio door de nonoos
(tweede en vierde week van de maand)
Radio Code
Japanese underground
(derde week van de maand)

DINSDAG
15.00 Radio Zenana
programma over vrouwen en muziek (tweewekelijks)
Popsong '89
muziek en informatie (tweewekelijks)
16.00 De Direktie
essentieel programma voor iedereen die snel rijk wil worden zonder moeite, door Willem de Ridder
17.00 Blues Hour
nothing but the blues
18.00 Radio Warokuma
informatie door en over Indianen
19.00 Crafty Fag
gitaar, rap, reggae
21.00 De Medicijnmannen
wonderdokters, heilbrengers of gewoon kwakzalvers? de meest geschakeerde muzikale fruitmand met het liedje van de week en het wielerkwartier
24.00 Staalplaat
cassetteprogramma met nieuws van het independentfront

WOENSDAG
16.00 Tevarüd
andere muziek, poëzie en teksten
17.00 Playroll
theaterprogramma gericht op het derde circuit
18.00 Sia
berbers programma
19.00 Een uur Lange Pier
fantastische hoorspelen rond de perverse mens
20.00 The Ear Bitten
post-industriele en abstrakte muziek
22.00 Groove Yard
dansen met Freddy B.
23.30 SAR
strijdbare muziek en een bemoedigend woord

RADIO 100 Amsterdam

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What is GreenNet?

GreenNet is a computerised communications and information exchange service specifically for the peace and environmental movements. Together with its sister networks in the US (PeaceNet and EcoNet) it has over 3000 subscribers (representing about 1000 organisations). Most use GreenNet on a daily basis to exchange information around the world.

GreenNet is not a campaign nor does it run campaigns. Its reason for existence is to provide a support service for other progressive groups.

One way of answering the question is to describe what this state-of-the art computer network may do for some 'typical users' on a 'typical day'. For example:

An organizer for an environmental group in Edinburgh consults computer conferences on toxic and nuclear wastes to gather information for a new local campaign.

A peace researcher in Cambridge works on a mutual security strategy paper for presidential candidates, collaborating with activists in Boulder, Colorado and Menlo Park, California.

A Beyond War member in Atlanta gets technical details on a satellite downlink of a US-Soviet space bridge he is coordinating for the local chapter.

A writer in Frankfurt asks for the address of a small Nicaraguan support group in Washington, within hours a user in Washington has volunteered to pass on messages.

A coordinator for a major peace organization in Washington D.C. that has just merged with another group communicates with all of her local chapters - getting their input to the transition.

A film maker in Toronto arranges with her host in Africa for a visit to a local development project in Kenya.

A newsletter editor in London receives newsletter article submissions online, eliminating the need to key in the accepted articles herself.

An investor in Falls Church, Virginia compares her portfolio with a list of military contractors on an ethical investment computer conference.

A solidarity group in London update themselves on the events in Nicaragua of the last few days (in English or Spanish).

A local group in Hannover ask an energy campaigner in London for facts to be used in a local radio interview.

Typical? Well, as you can see APC network users are highly diverse types. Perhaps the central characteristic is commitment to a future for the planet that works a lot better than the present. Peace is more than the absence of war, it is the sort of people described here working together to create a world of cooperation. These networks are their electronic tools.

GreenNet's online facilities

When a user signs on he or she finds access to electronic mail, computer conferences, data bases and a variety of support services.

Electronic Mail

Electronic Mail (E-mail) facilities include a keyword searchable user directory; gateways for sending messages to users on more than twenty commercial, academic and non-profit networks; and fax capabilities.

E-mail enables organisations to maintain rapid-response relationships with local groups and individual members. Online mailings prove a cost-effective means of sending out newsletters and legislative or action alerts to computer-using members of such groups as Physicians for Social Responsibility or Friends of the Earth. The members are, in turn, able to respond rapidly to requests for input to strategic planning in their organizations.

E-mail also enables individuals to work together more readily across organizational, national and issue boundaries. One of our favorite anecdotes comes from the writing of the funding proposal that gave birth to PeaceNet. Eight people representing four organizations in four cities had 3 days to write a 50 page proposal. We posted drafts three or four times a day and produced a document that brought in the first development funding and had complete agreement from all eight authors and four organizations. Everybody participated and everybody owned it. The total telecommunications cost was around $50!

The same rapid turnaround of information is invaluable in planning the content and logistics of conferences, demonstrations, and other events.

Conferences

The IGC and GreenNet systems also provide public and private conferencing. Over two hundred conferences with an amazing diversity of subject matter are open to all users. These include news, calendars, alerts to situations calling for action, discussions of strategy, organisational newsletters, investment monitoring, and briefings for forthcoming meetings.

Some conferences are open only to members of an organisation or working group but most are open to all users. Unless a conference is only for dissemination of news, one can enter topics up to 100K (50 pages) long, or shorter responses and questions to topics. Users can scan legislative update conferences maintained by at least three organizations: SANE/Freeze, Council for a Livable World and Committee for a New Foreign Policy. This variety helps activists see the Washington scene from multiple points of view. Friends of the Earth and other organisations used conferences at Christmas to coordinate response to the widespread arrest of Environmental activists in Malaysia - actions which subsequently led to the release of most of them.

Conferences also help users gain information not otherwise available to them. One of the best examples is sscan.news which provides detailed weekly reports on life and politics in South Africa and the surrounding states. Southscan presents the pattern of government repression, detention, and terrorism and the depth of black determination to overcome apartheid. The anti-apartheid movements here and abroad stay informed of developments in South Africa at a depth and timeliness far beyond other media. The CARNet conferences on events in Nicaragua, El Salvador, Honduras, and other Central American countries provide a parallel service for this area (carnet.nicanews etc)

Several news services or news clipping services are available. For example a Greenpeace conference, gp.press brings us daily updates on key peace and environmental news stories from around the world. A weekly service from CRIES, cries.actualidad, brings summaries from Managua of events in that region. Amnesty International's online conference enables users in the US to participate in their Urgent Action Network concerning human rights abuses. The central office swiftly disseminates action requests over PeaceNet. Just as swiftly countries violating human rights receive telegrams and letters from Network users.

The Christic Institute's conference, chr.contragate, offers a comprehensive picture of the Institute's activities. The progress of their current federal lawsuit, which implicates the contras and private contra supporters in drug and gun smuggling, is fully documented.

From frontline news we take a leap to conferences reflecting long-term developments. There are conferences on the ozone hole and other atmospheric problems, (en.climate) sustainable agriculture (nwag.news) and environmental threats to the oceans (en.marine) and forests (ran.tropictimber).

Some conferences directly facilitate action. A notable example was during the United Nations Special Session on Disarmament where a delegate to the session from the National Peace Council sent daily updates and requests for action (un.ssd3) while another entered summaries of each nations speeches and proposals, (worldfed.ssdiii).

Databases

Up to now conferences have provided an informal database capacity. But the first fully functioning data bases are now online in a testing mode on PeaceNet. In one of the first, users can quickly check the voting records of their Congresspeople, as well as a variety of fields giving background and areas of interest. This information helps voters individualise their communications to improve impact.

Other early databases will include:

Peace Research Abstracts Journal database - the largest and oldest set of abstracts of the peace movement.

Nature Center Database — directory of names and addresses of 1100 nature centers.

Africa database — covering African resources.

Consortium of Aquariums, Universities, & Zoo - database of people in the field classified according to their specific taxonomic interests.

Television Trust for the Environment - database of video resource materials.

A critical difference from commercial data bases here is the way the Association for Progressive Communications enables small organizations' databases to be accessed. A commercial service would want to make at least £10,000 per year per database, income impossible on small, special interest collections. APC's non-commercial status provides a leveraging of information that in some cases will play a vital role in peace, development, and environmental issues.

We are interested in hearing from organisations that would like to make databases they have on their own computers available to others.

GreenNet

Global computer network for peace, environment and human rights

GreenNet, 26 -28, Underwood Street, London N1 7JQ.
Tel:01-490 1510 Fax:01-251 2613 GreenNet:support
Telex:933524 box GEO2:GREEN-ADMIN
Geonet:GREEN-ADMIN Dialcom:10083:elo036

GreenNet Tariff

Standard Charges :

Minimum charge per month	5.00
Connect time per minute	0.09
Disk storage per k/month	0.01
Deposit for new users	30.00
GreenNet Manual	3.50
Communications software	10.00

Modems :

See seperate price list.

All prices in pounds sterling. Prices for UK customers do not include VAT.

High Tech and Direct Action

by Jeff Stein

There is an enormous gap between the social benefits that the new technologies of computers and telecommunications could bring about, and the actual uses to which they are being applied. Employers are using high tech not only to reduce their labor force, but to radically shift power in the workplace in their own favor. If the labor movement is to have any future at all, union activists must come up with new strategies and tactics to confront high-tech using employers.

There are at least five ways in which high tech is being used to undercut the power of the labor movement. It is helping employers remove decision-making from the shop floor. It is being used to electronically monitor workers. It is being used as an excuse to shift work to anti-union workers. It is being used to break strikes. And we should not ignore the devastating impact on the labor movement of massive technological unemployment.

Silicon Slavery

We are entering the age of the smart machine. Machines can be connected to computers or other electronic devised which take over much of the control of routine operation once held by workers. One industry where this is being heavily applied is in the metal-working industry. Through a technology known as numerical control, drill presses and lathes receive instructions from computer tapes made ahead of time by engineers and computer programmers. The machine operators no longer decide on how fast the machine should operate or whether modifications need to be made to take into account the limitations of an individual machine or part. With numerical control, a skilled machinist is no longer needed.

The effect of computerized control of machines is to allow the employer to replace skilled workers with fewer or less-skilled workers. The workers who remain are often forced to operate two or more machines at a time, since a single machine no longer requires constant attention. The result is more stress and less job safety. Computerized control also makes it easier for employers to relocate since they are no longer tied to communities with a large pool of highly skilled labor. General Motors' new high-tech Saturn automobile plant, for example, was built in Smyrna, Tennessee--far away from both unions and universities. High tech increases the ability of large corporations to move operations to the Third World.

Big Brother at Work

Employers have turned to high tech as a means of spying on workers. Computers connected to machines are being used as a tool for enforcing production quotas by keeping records of each worker. Supervisors no longer need to rely on hit or miss observation of workers when the machines themselves are capable of doing this for them. In a metal-working shop, computerized machine tools can collect data on how often a machine is actually being used to produce parts. In an office, electronic typing machines or word-processors can be used to keep track of which clerical workers are typing their quota of pages per day. On the road, a computer chip connected to a truck can keep a running log of speeds, mileage and number of stops. In addition to all of these, modern telecommunications can rapidly send this information to a central managerial office hundreds of miles away.

Computerized monitoring poses a tremendous threat to labor. The increased stress caused from high tech-enforced speed-ups can cause serious health problems such as headaches, digestive problems, depression and even heart attacks. Electronic spying also gives the employer a detailed record of each workers' performance which can be used for selective harassment of older workers and union militants.

Building a Scab Force

The introduction of new technology in the workplace provides employers with the opportunity for redistributing work to undermine union strength. Often this is done by shifting work to managerial personnel after it has been computerized. The oil refining industry, for example, has shifted a large portion of labor to working supervisors and technicians. These supervisors can be relied upon to run the refineries during strikes. Another industry where work has been shifted to less-militant workers is the newspaper industry. Much of the typesetting done in the industry is done automatically as journalists type their own articles into computer terminals.

The aim of the employer is to put the latest technology into the hands of more subservient workers, potential scabs during disputes. To hide this fact, employers may claim that the high tech machines require new skills and thus a new job classification for which younger workers must be specially trained. At a Caterpillar tractor plant, for instance, the company set up a special automated department separate from the rules governing machinists in the rest of the plant. A study undertaken by the union, however, found that workers in this department required less skill than machinists in the conventional department even though the company claimed they were an "elite" workforce. The new job classifications were a result not of technological needs, but of the desires of the company.

Electronic Strike-Breaking

Next to unemployment, the greatest threat of high tech to workers is when it is used to break strikes. By reducing the amount of skill needed to do any job, computerized tools only

make it that much easier for the employer to use strike breakers. In the event of a strike or lock-out, a combination of supervisors and hastily-trained replacements can restore operations after the experienced workers have struck. It was computers which broke the air traffic controllers' strike in the U.S. After the union walk out, the Federal Aviation Administration was able to restore 75% of commercial flights, thanks to a new computerized system of regularly spaced air departures and landings.

In cases where unions may be strong enough to shut down individual plants, employers have other means of high-tech strike-breaking. Computers now make it possible for a plant's operations to be moved quickly to another workplace hundreds of thousands of miles away. In 1980, during a strike by clerks working for Blue Shield insurance, the company was able to shift data-entry work at its Oakland office to non-union offices in the rural Sacramento valley over 100 miles away. Nor is it just clerical work that is effected. Computerized machine tools which have become standardized and more flexible can produce the same products at one plant which were manufactured at another plant on strike. The computer programs needed to operate these tools can be transmitted over the telephone.

Technological Unemployment

The computer is a technological innovation which is having an effect much different than previous ones. Unlike earlier inventions, computers do not simply replace human musclepower, but human brainpower as well. Areas of the economy like the service sector, which were relatively immune to labor-saving technology and could absorb the technologically unemployed, are now also mechanized. There is no industry, and no job, which is immune to job loss due to high tech. A report done by Siemens A.G. of West Germany published in 1978 estimated that between 30-40% of clerical and office jobs could be eliminated by computers. In 1980 the economist Wassily Leontiff estimated that upwards of 90% of manufacturing jobs could be eliminated. Economists no longer believe that U.S. unemployment will ever again drop below 7% (assuming the figures aren't fudged, of course). During economic upturns any rise in the number of jobs is usually due to increased hiring by small employers who cannot afford the new technology.

Naturally the effect of this unemployment is to make workers afraid for their jobs. Over 60% of all union contracts now include either wage freezes or wage cuts. Less than 20% of the U.S. workforce is unionized. More than half of all union organizing drives now end in failure.

A Labor Response

Considering how high technology is being introduced into the workplace, it may be tempting to adopt an entirely anti-tech position. However, the labor movement is in no position to enforce such a position even if that is what we want. There are a number of benefits that high tech could bring about, such as greater industrial decentralization and consumer control over production of goods and services. The challenge for labor is to somehow prevent abuses by employers while helping to develop beneficial aspects. To do this we must take to heart the words of Harley Shaiken: "...in an age of high technology, 'business as usual' is no longer a tenable strategy for unions."

One change we will have to make is to no longer view technological change as an exclusive prerogative of management. Technological change can be directed in two ways--one is to give the employer more control over labor; the other is to make work easier and more interesting for those people doing it. Computerized machines can help workers to develop new skills if they are given control of these machines and allowed to do their own programming.

The initial response of workers to an employer introducing high tech must be to refuse to cooperate with any attempt to rob them of job control. During the installation of new technology the employer depends upon the aid of experienced workers to help work out the problems that inevitably arise. This is because the engineers or computer programmers who designed the system generally have only the foggiest notion of what actually happens on the shop-floor. In the late 1970s, tool and die makers at the Ford Rouge complex successfully stopped an attempt by management to introduce computerized control of tool and die making. Union die-makers refused to cooperate with management in helping to eliminate the problems of the new system and, after several ruined dies, management was forced to abandon the project.

It is also important that unions do not allow the introduction of electronic spying on workers. If this is not possible, however, all is not lost. Computerized monitoring systems are not foolproof. Machinists being monitored at metal-working plants have been known to do such things as put the same part they just made back on the machine. As far as the computer is concerned, the machinist is making a new part. Only the machinist knows his tool is cutting air instead of metal. Work-to-rule campaigns may also become more important as a means of fighting electronic monitoring.

At some point strike action may be necessary, but workers can no longer depend on the passive, stay-out strike. The only way to prevent the employer from breaking the strike may be to occupy the workplace and thus deny the use of computerized machines to scabs and prevent transmission of essential production data to non-struck plants.

A couple of years ago, telephone workers in British Columbia occupied telephone company facilities and continued operations under worker control for five days. In the late 1970s the same thing was done in Australia with the additional tactic of refusing to bill customers for long-distance calls.

Striking the high-tech employer also calls for greater solidarity between workers in different unions and different countries. A few years ago New York printers were able to win a strike in spite of a high level of automation because drivers refused to deliver scab newspapers. If, in the future, telephone workers were to show the same solidarity, data needed by an employer to transfer production to non-struck plants could be stopped too. The sympathy strike and the boycott of scab goods are becoming essential weapons that labor can no longer do without.

Beyond these tactical considerations, the labor movement must also adopt strategies to eliminate the causes of scabbing--divisions within the working class and unemployment. Employers are using high tech to create a two-tiered workforce, an upper class of highly skilled technicians with strong ties to management and a lower class of high-tech machine watchers who have their most minute activities directed by computers. Labor must demand that technical training be accessible to everyone. Also, since high tech can eliminate management positions as well as non-management posts, unions must resist any increase in the number of managerial positions. It is equally important to resist the trend towards two-tier pay rates where new hires are paid much less than already hired workers.

Although the labor movements of some countries have tried to eliminate unemployment by shortening the workweek, this struggle needs to become an international one. Considering the ease with which high tech employers can relocate plants, reducing the work week in a single country is not going to be possible. A co-ordinated effort between the labor movements of several countries will be necessary.

Conclusion

Many economists claim that we are moving towards an "information economy" in which information has become the single most important factor in maintaining the flow of essential goods and services. How much of this is true and how much is hype to sell computers is subject to debate. Yet the fact remains that computers and advanced telecommunications are being used by employers in a renewed struggle for greater power over labor. To survive and grow in this so-called information economy, union activists need better understanding about new technologies. No matter how much we are able to force employers to train or re-train workers, we cannot seriously expect employers to provide this information to the point that it would undermine managerial control.

Unions and individual workers must take independent initiatives to learn about computers and electronics. Computer literacy (the ability to read and write simple computer programs) may become nearly as important to workers as literacy itself has become in the past. A basic understanding of electronics may also become important, because electronics is to this new economy

what the assembly line was to industry in earlier days. The participation of workers in community/pirate radio and community cable television could help acquaint workers with communication technology. Operating labor-oriented computer "bulletin boards" to spread information on workplace health hazards or ongoing strikes and boycotts could also be helpful. If we hope to have any control over the high tech assemblyline, we must have a rough idea of how it works.

Bibliography

Howard, Robert: Brave New Workplace. Viking. New York, 1985.

Noble, David: Forces of Production. Alfred Knopf. New York, 1984.

Shaiken, Harley: Work Transformed. Holt, Reinhart & Winston. New York, 1985.

Zuboff, Shoshana: In the Age of the Smart Machine. Basic Books. New York, 1988.

SPYBASE

This is a huge index of intelligence agency related books and periodicals, compiled in the United States by Micro Associates. The documentation claims over 80,000 citations and the indexing appears from a couple of trial runs to be both comprehensive and accurate.

The index is supplied on 6 5.25" MS-DOS disks (360K) and can either be supplied from a few of the more discerning UK Public Domain Libraries, from Micro Associates themselves or from CGH Services. We've received the literature relating to the latest update (latest material added November 1989) but haven't got the new set of disks yet. Our version dates from July 1989, which shows how frequently this project is updated.

The range of books and perodicals covered is quite broad, although inevitably it is orientated towards the USA. That said, there is a smattering of the more important non-US counter intelligence periodicals covered including Lobster from the UK. (To whom we owe our current set of Spybase.) The data is not evaluated, merely indexed, allowing researchers to construct their own meanings with the data. In an environment dominated by mis-information it is inevitable that some of the citations in Spybase will lead people up the "wrong" path. However if all leads are followed up one should also come across

refutations of misleading data. (Note - Micro Associates can supply copies of all relevant items indexed.)

You might think that this operation is highly illegal and subversive - but in USA thanks to a certain heritage of openess (much contested) this database is actually widely used and respected even by the Intelligence Agencies themselves. I have also checked out the data protection angle for British users - and provided you do not use the information to create your own database you won't have to register under the Data Protection Act as technically one is not actually controlling the contents or collecting them. I suspect therefore that if you obtained Micro Associated companion program MiniBase to create your own database then you'd have to register.

The information in Spybase is found by using name and/or country search, with optional time frame and source indexing. You could specify all the citations for Kim Philby in the years 1970-75 in Russia found in Playboy. (no I haven't tried but it shows the scope.) You could even simply do a printout of all the citations in a particular magazine.

Price £12 from CGH Services (£6 to upgrade if you supply disks) or $19 from Micro Associates, PO Box 5369, Arlington, Virginia USA VA 22205.

BOOK REVIEWS
AND
PUBLICATIONS RECEIVED

Behind the Silicon Curtain, by Dennis Hayes. Published by Free Association Books, 1989. 215pp. (Published in USA by South End Press)

Dennis Hayes has been involved with the excellent US journal, Processed World for several years and has established himself as a writer of well-researched and elegant prose, so I was well disposed towards this book from the start.

Dennis' main interests are with the culture of corporate capitalism as it is manifested in California's "Silicon Valley", home of many InfoTech giants, such as IBM, Apple, Hewlett-Packard and AMD. The close proximity of so many Infotech firms has led to them developing a new sub-culture, based around computing. Readers wanting a critique of software are advised to look elsewhere - but if you want a devastating critique of how working for the corporates destroys people in its heartland, then this is the business (!)

Dennis chronicles the appalling labour conditions suffered by the, mainly, migrant labour force in the manufacture of semi-conductors - both in terms of the gruelling work schedules and the unhealthy work atmosphere. To make matters worse, the official bodies (OHSA) designed to protect workers in effect is a tool for the bosses and trade union organisation is made almost impossible.

Compared to the work conditions suffered in the production processes, the white collar programmers and designers have an almost luxurious work environment. But the stress and strains involved in this most uncertain and fast-moving of industries causes its own headaches. It has been estimated that in some companies up to 80% of the staff are non-alcohol substance abusers, whilst up to 60% are regularly seeing therapists. All symptoms of a sick society. Not that this is necessarily implicated in the technology - under different circumstances workplaces could be made a lot healthier and the stresses implicit in keeping up with roller-coaster capitalism evened-out.

If this wasn't bad enough, Silicon Valley is enmeshed in a myriad of strange cults and fads, as people desperately try and keep in touch with themselves (other people having long since been relegated to the waste bin). The most insidious of these cults is that of compulsive shopping. What could be more useful to a capitalist society than people self-programmed to consume, you might wonder? Well, even this is not without its problems - people run up huge credit bills and (as our Chancellor keeps reminding us) this undermines the system.

Another matter brought under the analytical eye include the vast amounts of work done for the Military in Silicon Valley. Not only does this work entail the production of hideously costly hardware and guidance/control systems but the psychological effects on programmers etc have their own costs - as people become even further alienated from their work. The piecemeal approach to programming in this area also accounts for a lot of the ill-written code generated as secrecy prevents people communicating freely about problems and the overall design.

The book is well documented, with nearly 50 pages of notes (but no consolidated bibliography) and is well-written. Really my only grumble is with the price which is, unless I am mistaken, £9.95 in the UK, which is rather a lot for a paperback. However a trip to the library can solve that problem. Essential reading.

Electronic Pirates, by John Chesterman and Andy Lipman. Routledge, 1988. 224 pages, £8.95

This book attempts an over-view of the world of electronic crime. Besides computers (with their well-known hacking, pirating and viruses) they deal with print, audio and photocopying technologies. Its focus is more with how this "crime" is being policed, rather than being a D-I-Y guide to "doing it".

In fact, it is the failure to adopt a more radical approach to the subject that I feel is the book's greatest weakness. Obviously there are commercial considerations involved here. Which commercial publisher would encourage people to liberate information from the commodity forms in which it is trapped by capital. On the other hand, being such a dry approach they've probably lost out on a lucrative market.

That said, the book is an interesting read and occasionally has some interesting information, including some info on how electronic networking has helped open the "Eastern block" (that's block as in ice-cream block). One expects that the authors would also have applauded the efforts this year to flood China with dissident faxes - it is a measure of the speed of technical change compared with getting books published that this book does not even mention faxes in the index!

Not an essential purchase, but if the library has a copy - it's a pleasant read.

Questioning Technology, a Critical Anthology, edited by John Zerzan and Alice Carnes. Freedom Press, 1988. 222 pages, £5.00

This is an excellent anthology of articles from people distancing themselves from modern technology. It covers a wide range of source materials, so if you have already read widely in this subject area, much of it will be familiar to you.

I must say that I felt that many of the contributors overstate their case, and the sheer repetition of the same themes made for rather tedious reading. Definitely one to dip into, rather than read straight through. It is, of course, one of the ironies of contemporary life that even such a volume as this is often written, produced and distributed with the aid of the very technologies that people are criticising. The cover was "done with two fingers by Rufus Segar on a Macintosh Plus with Pagemaker". (And very tidy it is too!) (For the record these three pages are being done on an Atari STFM using Publishing Partner and printed out on a Panasonic KXP-1124 Dot matrix printer.)

One wonders if anyone is going to look back at some of the predictions in a few years time and feel just a little foolish. I distinctly remember people predicting a massive increase in unemployment as infotech was introduced - yet (even allowing for governmental massaging of the figures) this has clearly not been the case so far. Perhaps this will not happen for many more years - or the unemployment will be exported? What cannot be connected is that infotech has altered many people's lives and will continue to do.

As always Freedom Press have done a good production job on this book and the price is most reasonable, Definitely one to buy (from CGH Services if you desire - add 10% for p&p).

Not over our heads - a report on women and computers in the office. Microsyster. 1988. 92 pages £2.00

This a well-produced A4 pamphlet, covering a weekend conference held at City University in London in March 1987. About 500 women came to this conference - which shows the level of interest among women about how infotech is changing their work and how infotech intermeshes with other systems of power - sexism, racism, disabilities, ageism and so forth.

Well here we are at last. The final straw which delayed our appearance by a further two months was the persistant fault on the old Xerox copier which resulted in a faint smudging down all the pages. Our apologies for those of you who have affected copies. Fortunately we have now taken delivery of a new copier, which has a minimum 5 year maintainence contract, and this has been used to complete the copying process. Hopefully future issues will be of a higher standard of presentation.

For those of you who have been following the "Marconigate" suicides, in which computer scientists linked to the defence industry have suffered inexplicable deaths, I can recommend a new book by Tony Collins, entitled "Open Verdict: an account of 25 mysterious deaths in the Defence Industry." The book is published by Sphere and costs £4.99. Tony Collins summarises all the available evidence about these deaths, but is unable to come up with a definitive explanation. What is certain is that the strange manner of the deaths and the lack of motivation when linked to the important jobs these people were doing in very sensitive areas of electronic warfare, makes it look for more than just coincidence. The book does suggest, in the epilogue, that post-hypnotic suggestion was the method employed, and a finger of suspicion is pointed in the direction of state security agencies who may have eliminated people who, for a variety of reasons, may have possessed sensitive information that could have been leaked. But, as yet, there is no "smoking gun", nobody has confessed. Maybe it requires a figure such as Colin Wallace to blow the lid off this scandal, if scandal it be. (Has anyone got further information on the Asian man found dead on Brighton Beach in May 1987? There was speculation at the time that his death may have been linked to an international defence exhibition held in Brighton at the same time.) More information welcome.

Next Issue of Black Chip. Well we hope to get it to you a lot quicker than this issue. One theme that really needs exploring is that of health and safety in the Info tech industry and among users. The past year has seen reports by, among others, Friends of the Earth on radiation output from monitors, and a series in Electronics World and Wireless World about non-ionizing radiation etc in the February and March 1990 issues. Processed World has carried an item on the health hazards in the States. In short this is an area we should be covering in more detail. One of the reasons we haven't is because the editor lacks the scientific background to properly evaluate the articles. (What, for example, should one make of Duncan Campbell's intervention in the debate on screen guards to protect users from radiation?) If any of our readers can supply us with further information, reports, whatsoever on this subject we'd really appreciate it. What we'd prefer is original research or summaries thereof, rather than polemical waffle. Deadline for articles, graphics (please!) is June 1st 1990.

Bits and Pieces:

We accidentally omitted MicroSyster's address from the review of their conference report. Women can contact them at: Wesley House, Wild Court, off Kingsway, london, WC2B 5AU. (Tel: 01-430-0655).

Can anyone provide more information on VITA that we featured in the last issue?

If you've received this and are wondering why, it is probably because you purchased Spybase. Don't worry you won't be getting any more unless you subscribe.

Also you won't be getting any more copies if your subscription has expired. If the number on your address label is 2 or less we need to getting some dosh from you. £5.00 for 4 issues (pay more if you want it sent airmail anywhere!) Please send sterling cheques, payable to C.G.H. Services, Cwm Gwen Hall, Pencader, Dyfed, Cymru, SA39 9HA. (I notice I've even forgotten to put our address in the magazine!)

Final point: I'm ditching the PC, so if you want an update to SpyBase, you're best advised to contact the people in the States.

Richard Alexander (Editor and Publisher.)