# TO CURE TECHNOPHOBIA YOU NEED ILLUSIONS THAT WORK.

A lot of people aren't fooled by the new technology. They know it means new levels of tedium wherever work is required for survival.

At AT&T, we're worried by their hostility.

That's why we're watching reactions to automation so closely. To find out what people will accept. And where they draw the line.

Our calculations can help them view their domestication as inevitable, almost nice.

You see, at AT&T we know even the most advanced technology can be dismantled by people who want to live for themselves and not us.

AT&T. We help keep domination up to date.

AT&T

# BLACK CHIP

A Radical Journal of New Technology

Issue 86:1 75p Spring 1986


6766 B

# What can you do with a home computer that's even more important than zapping aliens?...

## Cursors! Anarchists byte into council computer

**TOP secret information on Berkshire County Council's computer system can be tapped by ordinary members of the public, it was claimed this week.**

Reading Anarchists have slammed the computer's security describing it as "About as watertight as a teabag," after a member of the public tapped into its system.

And the anarchists claim that the activities of the intruder caused such alarm that the computer went on to security alert and shout down for a day last month.

Now, the anarchist newspaper, Red Rag, have published what they say is a step by step guide to breaking into the county council's information nerve centre and they add that anyone who does so is not breaking the law.

In an article called "Hi Tech Fun," the group say that classified information can be reached by anyone using the county council's Viewdata Service, if they follow a set of simple instructions.

Viewdata provides information on sport, entertainment and local events in the area and is available free of charge on any of nine terminals at Reading Library.

And on January 27 the anarchists claim that someone using the service actually managed to get through the information service and add things to the computer's read out.

"A Viewdata subscriber was astonished to find the Berkshire County computer expressing praise and admiration for the activities of Reading anarchists," the article said.

"An incident believed not to be unconnected with a shutdown of the Viewdata service on January 27. Anyone attempting to access the service on that day were met only with a blank screen with the flashing words 'Security Alert'.

"You don't need to be a computer whizz-kid to fool around on Berkshire's mainframe computer."

However, principal assistant librarian Mr John Hicks told the *Chronicle* that many of the anarchists' claims were "total invention."

"People cannot rampage merrily through the county council computer. People can get beyond the information service but it is not part of the mainframe computer."

And he added that anybody who did crack the system on January 27 would not cause a "security" alert because the computer is not programmed to do that. He said that someone from the outside must have typed the words in.

He explained that although the library terminals are connected to the mainframe computer, it is not a section of the computer that contains classified information.

"Each terminal has its own memory and they are just playing around with that, but there can be no penetration to the mainframe from the library terminal. All they can do is write messages."

He added that they had to expect young computer wizards to be able to "crack" the computer's memory banks and that it was part of the security system.

"We just have to wipe things off, it is just an inconvenience, but it only happens very very occasionally," Mr Hicks said.

READING CHRONICLE
14th FEB. '86

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# day school

As some of you may remember, we are planning to hold a day-school with the aim of giving comrades the chance of getting "hands-on" experience on various pieces of the new technology, in particular computers. We aren't certain what form this day-school should take, so under this screed you'll find a "provisional" booking form for the day-school. This form will give you the opportunity of listing those items that you'd be most interested in finding-out about. We are also keen to hear from anyone willing to undertake any of the "teaching" roles that will be needed. If we get sufficient response we will run the day-school. The place we are currently hoping to hire will probably cost about £5.00 per person, and will only take about 30 people and is situated in the Tower Hamlets area of London. Please send completed forms to: Day School, c/o Black Chip, 55 Dupont Road, London SW20 8EH by the end of April. Please also send an s.a.e. so we can inform you of progress. We also hope to organise a political discussion on issues covered by Black Chip in the near future, let us know if you'd like to set one up.

Name.....

Address.....

I want to learn about... Programming (state language).....

Modems Networking Graphix Printers Typesetting Hardware

Others (please state).....

I can give information on.....

I can/Please organise something similar in.....



# editorial

Firstly my apologies for the delay in getting this issue of Black Chip to you all. I wont bore you with the details. My aim of getting this offset printed has been thwarted for the time being, as has any co-operation with similar groups with the idea of getting a national large circulation journal off the ground around this subject. So it's back to the photocopier for the time being.

Next I would like to thank those people who have allowed me the privilege of printing their writings. As you will have realised, this issue contains an 8 page supplement, which I may get reprinted offset if there is the demand. I hope that future issues of this journal will also include supplements. I am open to offers as to the content. I hope that the next one will be our "Micro-computers for Beginners" (see page 7). I know that the author is keen to receive ideas for what to include in this. I believe that we may also get a practical article on Modems - how to network etc. If this is long enough it can also be a supplement. There is also a possibility of one on closed-circuit videos. This series of supplements will include both theoretical and practical articles.

I sometimes get letters complaining that Black Chip is too NICE!!! People expect what was called "an anarchist journal of computing" to be full of angry and rude words, reporting and inciting all sorts of illegal acts, and so forth. Well that is all very well but as you may realise the person who publishes this paper is legally responsible for the contents. Now far be it for me to kow-tow to authority, but I am not going to put myself in jeopardy just so that some anonymous individual can have some fun in print. If the readership really prefers such a paper I will gladly hand over the name and the debts to anyone willing to take it on. Alternatively I am always happy to advertise anyone else's paper, so if you're producing an underground version of Black Chip, let me know and I'll advertise it in the next issue. In the mean time this paper will continue its(my) policy of printing articles which explore the political dimensions of the new technologies, in both theory and practice from radical perspectives. Personally I fail to see what is gained from using abusive language in print, it invariably tells one more about the author than about the points they are attempting to make. (I'd agree that academic language or technical jargon can be equally alienating and that polite and unemotional writing is just another way of suppressing feelings. You will notice that these editorials are nearly always grumpy - but never use bad language. Draw your own conclusions!)

Anyway what is likely to be in store for the readership in the next issue ? Well I hope that there'll be a feature on how the New Technologies are used to maintain apartheid in South Africa and how resistance to this is being organised; there should be a review of Boy Igor's pro-situationist book on science and technology; there may be an up-date on the Star Wars situation; I hope that Reading Anarchists will send a copy of their mag with the details of how they hacked into Berkshire's computerised information service (see cover, if you haven't read it already); plus whatever wonderful surprises I receive in the shape of unsolicited letters and articles from you, the readership.

Finally a word about subscriptions. As you can see the cover price has gone up, as have the printing costs, due to the 50% increase in the number of pages. Therefore I have also increased the subscription rate by 50% to £3.00 per annum. The plans to go bi-monthly have been suspended, although I reckon you'll get the same number of pages per annum this way. (6x16=96),(4x24=96). If your subscription has expired, or if you only paid for one or two issues you will get a little note in this issue to that effect. You will not receive further issues until I receive more money from you. If you can't afford £3.00, then send 75p per issue, plus a large s.a.e. If you don't put enough stamps on that's up to you and the Post Office. Your address label should say when your sub runs out, any renewals will be taken to run on from the last issue that the sub expired on. O.K.? If it says exchange on the label then you'll continue getting copies as long as I receive something from you.

Richard

# COMPUTERS AND CONTROL

Black Chip (BC) has recently carried articles "debating" whether "computers" (whatever they are) are a "good thing" (whatever that is). These have been fascinating, not least because of the wide range of fact and opinion introduced. However, I would take issue with the authors of these articles on three points:

a) what, precisely, is the debate about?
b) where is the political analysis of the issues? (If this does not exist, are articles in a minority newsletter a good way of developing it?)
c) if it was decided that computers were unacceptable, would they be opposed (how?), or merely ignored?

This article was written because:
a) Looking at computers in the general context of "control" can provide useful insights into contemporary issues and contradictions of interest to BC readers.
b) Consideration of issues of control may also guide a political practice which involves the use of computers as tools. Can they be used to maximise individual freedom, political and economic equality and planned production?

Six areas are covered, which although interrelated, have their own "flavour" of control:
1) USER/COMPUTER
2) NATURE/SCIENCE
3) LABOURER/WORK PROCESS
4) CITIZEN/CORPORATE STATE
5) POVERTY/IMPERIALISM
6) PERIPHERY/CENTRE

1) USER/COMPUTER
"Freedom" might be defined as control over one's life. The issues at stake are culturally dependent - in the "developed North" a major issue is how to deal with complexity and rapid change. Computers, especially micro-computers, are part of the problem for some and a possible solution for others.

The methods of "systems thinking" can be useful in locating, storing, and organising the information necessary for effective struggle. But, before using systems methods (or any product of our age) their implicit ideology must be examined and criticised.

Access to learning/training opportunities is essential, but these must be applicable to the user's needs. Most current computer training material derives from and serves a macho desire to simply control the machine as an end in itself.

Users can easily lose some control when they "computerise" their activities because of the appalling narrowness of the medium. They also face built-in obstacles: Firstly, the equipment designer's idea of the user which determines the "user interface"; secondly the corporate strategy of the manufacturer which determines the user's control over future options.

If "intelligent machines" are ever mass-produced, users could also lose control completely - not in the science-fiction sense of robots running amock, but in the sense of truth being reduced to the utterance of a machine (rather than an agreement between people).

For many people, their first experience of a computer (or even the idea) is a shocking exposure to logical, reductionist, empiricist thought-processes. The brash arrogance of the computer industry and some of its fans is sickening.

As there is no coherent analysis which shows that computers are (or could be) beneficial, a retreat into gut-reaction or mysticism cannot and should not be criticised. But, if knowledge is power and technology





means control over nature, shunning the computer industry merely increases its power.

2) NATURE/SCIENCE
The history of science is a history of predominantly male domination of nature. Computers represent a pinacle of achievement in technological precision and the management of complexity. They extend scientific capabilities by their ability to "model" nature, to gather data, and to keep pace with the "information explosion".

Paralleling the development of computers there has been a growing social movement in favour of holism, "natural" lifestyles and the like. An important element in this movement has been the desire to moderate the technological process. In the field of weapons technology many activists see the desire as a life-or-death struggle.

If armageddon does come, it will be computer controlled. That is a fact which cannot be ignored, but it is not proof that computers are evil. Animal nervous systems are bio-chemical "computers"; natural radioactivity contributes to species diversity; so to argue that certain forms of technology are "unnatural" is illogical and does nothing for the struggle against computers (or nukes).

If computers can contribute to international links; the spreading of counter-information; democratic organisation; etc, then why not? If you prefer to use pencil and paper, will you say a prayer for the forest?

3) LABOURER/WORK PROCESS
Automation is a capitalist necessity. The use of computers in industry is an extension of previous technology. However, computers have extended automation into new areas of work and (in combination with satellite communications) increased both the power of the transnationals and the international division of labour. "Expert systems" are slated to bring automation to the process of innovation itself.

Detailed studies have shown that the introduction of computers is producing net unemployment. To argue that they were lousy jobs anyway is to miss the point - management control has been increased (despite, or maybe because of, "New Technology Agreements").

The production and use of computers also introduces new health hazards: heavy-metal pollution from "chip" factories; damage to the vision of assembly workers; mental illness in systems programmers and adolescent "addicts"; and unquantified risks from display screens. Nothing will be done about any of these unless workers and citizens organise against them. So lets have less superficial whining about asian women going blind and more action!

"To invent is not to produce". Computers serve a dual purpose within capitalism. Firstly as a profitable sector in an otherwise depressed economy. Secondly as one of a range of tools with which to restructure the global economy for the next century. These tools include methods and ideologies, not just technologies.

4) CITIZEN/CORPORATE STATE
States use computers for the same reasons as capitalists - to increase management control and "efficiency". But they are also using them to contain and supress dissent.

The two main tactics used are increased gathering, storage and retrieval of information, and increased exchange of information between departments. Elements of automation are slowly creeping in, such as the video/computer system on motorways which can recognise number plates and spot stolen or suspect

# Computers and Control

vehicles, and the idea of computer-readable ID cards to contain soccer violence.

New digital telephony systems, coupled with advances in voice recognition techniques could form the basis for automated surveillance of a large (and essentially unlimited) fraction of the population.

Social experiments have taken place in the USA involving automated surveillance of convicted criminals. Would it really be surprising to see, in the next few years, the introduction of computer-readable tattoos? What was that tale of the "mark of the beast"?

5) POVERTY/IMPERIALISM

The motor of the global capitalist economy is the USA. It is not a coincidence that virtually all major developments in computing and weapons technology (in the capitalist West) have originated there.

The "starwars" Strategic Defence Initiative (SDI) is the public face of a technical and ideological battle for the military high ground of the 21st. century. The US global war machine already relies heavily on computers and digital communications networks for its C3I (Command, Control, Communication and Intelligence) systems. SDI will magnify this capability manyfold.

Virtually all international currency and commodity dealing is now electronic. It has been estimated that the "value" of the digital data on the international networks at any instant is over 3 billion dollars! All transactions with a "third-world" country renaging on its debts to international financiers could be cut off within half an hour.

However, Fidel Castro claims to have proved (using a microcomputer made in the USSR), that if a GROUP of countries collectively refused to pay their debts the system could be brought to its knees.

The tools in these cases are computers, digital data networks, satellites, launchers - virtually the whole gamut of post-war "high technology" has been used to make the rich, richer. Big surprise!

With some notable exceptions, the struggles against this global power have been ill-informed, disorganised, riven with factions and just plain pathetic. Could the same basic technology be used and adapted to help build solid political support for liberation movements and a new economic order?

6) PERIPHERY/CENTRE

Looking at how computers have been used so far is pretty depressing - the powerful seem to have ammassed more power. This is not unusual, so the real questions must be: Could existing or feasible electronic digital computers and communications systems, and their associated philosophical, mathematical and ideological developments benefit the oppressed and powerless?

If so, in what ways? How much time and money would it cost? Who knows how to do it?

I maintain an interest in computers because I think the answer to the first question is yes. I write articles like this because I think that detailed debate on the other questions is long overdue.

Since I feel that there should be more awareness, debate and action on these issues, its not really appropriate to describe in detail what I think and why. However:

a) by using computers, the ruling class have built a very high, but extremely fragile tower to rule from. It would be interesting to know how to demolish it without hurting anyone.

b) computers together with telecommunications have enourmous potential to aid various forms and areas of struggle. This derives partly from the tools for thought



# Computers and Control

which "information technology" has popularised and partly from the technology itself. Although practical examples have so far been sporadic and often politically naive, awareness and experience is spreading fast.

c) for the first time, the potential exists for popular planning, resource allocation and conflict resolution. This crucial feature of any free, egalitarian society has been sadly neglected by socialists and anarchists. It is not an optional extra which can be safely left until "after the revolution", nor is it something which can be prescribed like medicine by "experts" (whether they be called cyberneticists or hackers).

The production and application of computer science by the ruling class appears very threatening, but there is nothing inevitable about it.

The original meaning of "control" was to compare some measured aspect of reality with a model, a plan, in order to regulate some activity. The question now is the same as it always was - who draws up the plan; who measures the "error" and how; and who decides what gets done about it?

APPENDIX: DEFINITION OF TERMS.

| | |
|---|---|
| Communication: | Shared information. |
| Computer: | Programmable calculating machine. |
| Control: | Operate within limits. |
| Data: | Given fact. |
| Information: | Thing told. |
| Program: | Set of machine instructions. |

# Microcomputers for Beginners

At the BC reader's meeting (26/11/85) several people said they would like a pamphlet along the lines "Microcomputers for Beginners". OK, here's an outline for you to think about. Would it answer most of your important questions? Has it been done already? Please send your comments, suggestions, references, graphics, etc. as soon as possible to Black Chip (MfB).

PROPOSED OUTLINE

1. Layout:

2 or 3 double-sided A3 sheets stapled and folded, single colour printing. This would allow from 2000 to 4000 words plus diagrams for about 50p. This is <u>not much.</u> Why not go out and buy one of the hundreds of introductory books and get more words for your dole money? Possible answers: they're patronising; they've got no political analysis; they're no good. Any more? Please let me know.

2. Objectives:

The main objective is to demystify the technology by providing:

* The knowledge required to use and select computers successfully;
* A basic vocabulary;
* Background information on the history and significance of the "micro revolution";
* A summary of the production process.

3. Content:

Eleven sections are planned:

a) What's all the fuss about?
b) Why should "we" bother?
c) What can they do?
d) How do they do it?
e) Who makes them and how?
f) What can you USE them for?
g) How do you use them?
h) Do I/we need one?
i) Which one?
j) Basic jargon.
k) References and contacts.

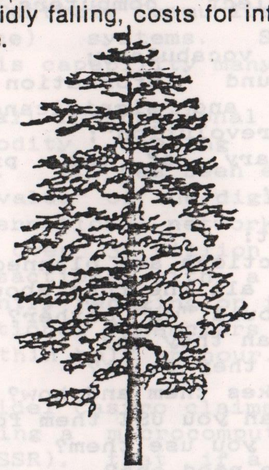
# Greens' Communications Network

**International Green Communications**

Since November, activists from 20 US locations, London, W. Germany, and recently Japan, New Zealand, and Switzerland, have been meeting by computer as the International Green Network.

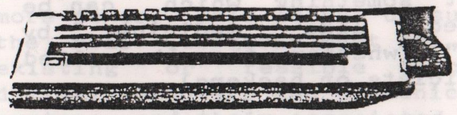
Our experience thus far shows that online teleconferencing, electronic mail, and readily accessible bulletin boards are valuable organizing tools on regional and "national" as well as the international level. An extensive network of Community Terminals can provide:

1. Sharing of ideas, development of a common Green agenda.
2. An (eventually) daily international news service.
3. Midwifing and logistic coordination of tours, demonstrations and other projects.
4. A more truly democratic means of rapid decision making than ever before possible, both for existing organizations and the emerging Green presence. Far-flung affiliates have equal access much more cheaply than by sending delegates to too infrequent in-person national conferences.
5. Emergency response network.
6. AIRHITCH; a cooperative air transport service. *Very* cheap to Europe.
7. Database for corporate/military and environmental research. This is a longer term application due to currently high, but rapidly falling, costs for information storage.



The Green network is housed on Delphi™, a mainframe computer owned by the General Videotex Corporation, a relatively small independent company. They charge a one time $29 membership fee for each user account, plus $6 per hour on line evenings and weekends. $16 per hr. weekdays (to be avoided.) The cost of a long distance carrier is included, so except in some rural areas there is no additional long distance phone bill. Delphi can now carry 40 users at once, soon 120.

Delphi offers several other useful services, mostly at premium rates. The most expensive of these, Dialog ™, searches 40 years of the New York Times and 16 other newspapers for references to a given name or event, at $75 per hour. If your search criteria are carefully phrased most searches take about 10 minutes.



## Getting on line

Any home computer can access Delphi if equipped with a modem (modulator-demodulator,) a device for sending data on the phone lines. The 300 baud Volksmodem, is $48. Those anticipating heavy use are well advised to invest more ($170 ) in a Volksmodem capable of transmitting at 1200 baud, as there is no extra Delphi charge for the faster service.

Once you have your modem, you can join the network in a matter of hours. Call Dave at Mass (617)862-1139 , or 864-4144, Stan at (215)-922-0227, or Brian or Ben at (608)-257-5517. We will give you the local delphi number for your area, and instructions for signing on. We can also advise you on equipment purchases. Experienced telecomunicators can simply dial up delphi, give USER ID GREENSIGNUP, and PASSWORD GREEN to open an account.

Every affinity or working group who joins the net makes us all stronger, empowered by the multi-human powers of the network. It really is a phenomenal feeling to be able to be heard by people that make a difference and maybe chat with an author or politico you have admired for a while. As the other nodes become familiar with your group they will ask you to do things for them and you have the right to ask right back. This is a living network and it wants to grow in your direction.

## How Do Technologies Embody Values ?
Les Levidow and Bob Young

How can we approach new technologies in terms which offer hope and enhance oppositional uses ? How can anti-capitalist values be embodied in new developments ?

(This article is from the conference proceedings of the Easter 1984 Berlin event, which is reported at length by Les Levidow in Making Waves).

It is far too easy to adopt a despairing attitude based on the all-too-frequent experience that new technologies are simply wheeled in and roll over workers. This pessimism assumes that the machines can achieve very tight control over a labour process, eliminating degrees of freedom, spaces for opposition, subversive potential. The pitfall lies in presuming their omnipotence, in attributing human-like powers to the apparatus as such, rather than recognizing the technologies' limitations and vulnerabilities as management weapons.

Certainly we must confront the oppressive features of technology design. For example, in the sphere of office automation, a word processor or a communications network with pacing, surveillance and control can constrain the degrees of freedom present in office work. In addition, through numerical control of machines, new technologies can deskill the worker or even eliminate the job, as in the well-known case of tape - recording the digitalised movements of the human body as analysed through a computer which can then be used to program a "robot".

These are all more recent examples of what Marx meant when he wrote, "It would be possible to write a whole history of the inventions made since 1830 for the sole purpose of providing capital with weapons against working class revolt". (Capital I, Penguin ed., p. 563). This quotation is echoed in many advertisements which point out that in automated factories their robotic workers never take tea breaks, or go on strike, or take vacations or have a bad day. We find such claims in the manufacturers' lit- erature on many new technologies.

At the same time, paradoxically, we find PR (public relations) arguments expressing a "gee whiz" vision of utopian progress through wonderful new technologies that will magically free us from tedious, dirty and dangerous work. A whole growing literature of futurology - such as David Martin, Daniel Bell and Alvin Toffler - assumes that there is no cause for worry and that there is no alternative anyway. Yet capitalists know very well - as do we - that a decision to do research and development on a new technology is a decision to intervene to obtain a certain result for certain class purposes.

How have critics of new technologies responded to capital's programme ? A mildly critical trade unionism has attempted to accomodate to capital's new technologies in the vain hope of "sharing the benefits", as if capital's intentions were negotiable. Informed by a simplistic "use/abuse" theory, this prevalent trade unionist approach takes capital's design for new technologies for granted as "progress" and then tries at best to

make the best of their applications. In practice, trade unionism tries to minimise its own losses of membership through redundancies, made in the name of "saving our industry" from economic inviability.

Conversely, a more critical left approach takes capital's oppressive intentions entirely at face value, as if capital's intentions must prevail over the working class. Informed by a "capital-logic" theory, this type of "left functionalism" assumes that everything fits neatly together, that capital's technologies control labour as well as they were designed to do. (Marcuse's "One Dimensional Man" contains elements of such an approach, though from a perspective of "a catastophe for the human spirit", rather than political economy.) According to this totalised "capital-logic" approach, capital's new technologies warrant nothing less than total, absolute opposition. Although there may be an attractive elegance to this way of portraying the history of capitalism and opposition to it, such an outlook provides little basis for hope or oppositional strategies.

What kind of theory might point to spaces for effective opposition ? Firstly, we need to remember that technologies - and definitions of skill - always embody a moving resolution of historical, class forces. Rather than romanticise "craft" skills (as Braverman tends to do), we should remember that one generation's craft tradition is the previous generation's deskilling technology, as well as the subsequent generation's obsolete, "inefficient botleneck" of production. Similarly, the political practice of refusal - such as the "Luddite" machine-breakers of the early 19th century - should also be seen as historically relative. The machines that a "Luddite" opposes are replacing other machines. For example, when workers today oppose photo-setting in the printing industry, they are doing so in the name of defending "hot-metal" machines that had in turn replaced earlier mechanical or hand-typesetting technologies.

In order to overcome and contain such opposition, capital offers various forms of negotiated agreement, bribes, "job enrichment" and other ways of diverting attention from the historical forces that are actually in play. Similarly, on the part of trade unionism, the fight for "technology agreements" is at best a delaying action that evades the class character of the new technologies and their long-term consequences: job loss and greater real subordination of labour (work discipline). Furthermore, employers more recently have felt strong enough to dispense altogether with the niceties of trade union consultation and "technology agreements".

## New Uses / New Designs

As a basis of generating both hope and strategic clarity, we would like to outline two additional approaches :

1) that we should explore both the available spaces and imposed boundaries within which a new technology may be applied; and

2) that we should become actively engaged in the process of originating new technologies, that is, setting priorities for the type of problems that new technologies should be designed to solve.



While a new technology may warrant absolute refusal in a capitalist firm, for example, the first approach may help open up liberatory potential in different settings, and the second may help open up possibilities for designing it differently by starting from a different class definition of the problem to be solved.

We think that the debate about new technologies often gets so mystified that it is important to remind ourselves of some things that we already know well. A given technology may have been invented and deployed for one purpose but be adapted to another and have numerous unforseen uses. One has only to think of government arms which guerillas can turn against their masters. Even so, a given technology has a given range of constraints and articulations. An automobile assumes that people travel in family-sized groups, that petrol is available, and that workers produce a road system, brake linings of asbestos and rubber tires - all with health and safety consequences. But also recall that the Ford Model T was one of the great democratising technologies of the earliest 20th century, even though the auto industry has now become the belly of the beast of multinational capitalism.

Other technologies of the recent past may have been developed to serve a repressive desublimation through a palliative mass culture of consumption - the long playing record, cheap offset litho printing, the audio cassette, cheap radios. But these, like the more recent (and still relatively undeployed) video cassette and personal computer, are very adaptable to oppositional purposes. We have in mind, for example, the growing culture of independent video documentaries and agitational tapes which bypass the government-controlled television channels. 25% of homes in Great Britain have video cassette recorders; and a portable video camera, recorder and editing gear are cheap compared with film technologies. Similarly, Community Memory, (see Athanasiou) in California, among other Left software groups, are developing fully relational data bases and other programmes for opposition- al uses (there are more than two million home computers in Great Britain...and this article has been typed on one of them!) There are analagous oppositional subcultures making use of CB radio and pirate radio stations, the latter especially in Italy, Britain and Spain, while in the United States the Public Broadcasting System and Pacifica Radio occupy a legalised semi-oppositional space on commercial stations.

This first approach, then, accepts that the technology has already arisen from a research and development process which privileged certain intended uses over others. But by the very nature of capitalist use values, there is a zone, a bounded space, within which other, including oppositional, uses may be developed. Beyond those, there are modifications, developments and adaptations. Think what the Viet Cong made of bicycles, how rioters adapt petrol and milk bottles, how bank robbers deploy thermal lances and plastique explosives, and how teenage computer freaks rummage around in military data bases. The model for this exploratory perspective is to take the technology as given and develop adaptations or, to make an analogy, new "software". This approach can take us a long way, but not, we

think, beyond capitalist society.

Our second approach is that of counter-hegemonic design. While our first one was to explore and extend and adapt the boundaries of capitalist (including state capitalist) research and development, this perspective invites us to intervene - to make politics - in the process of origination of new technologies. Lest this seem totally utopian or esoteric, think of the Lucas Combine Corporate Plan and the whole perspective of conversion of military manufacturing to peaceful uses. Think of making heat pumps, solar panels, kidney machines, a road-rail vehicle or cheap subversive radio transmitters - that is, so cheap that radio pirates can affoed to risk losing them in police raids (see Barbrook on Our Radio).

In Coventry, there is a Unit for the Development of Alternative Products (UDAP), whose whole raison d'etre is to encourage new products made in new ways. UDAP's perspective is one of many: they try to stay out of capital's way and make, for example, a "straw box" for the poor to cook more cheaply, a machine for reducing the bulk of rags which lowers the transport costs for Oxfam. They are as concerned with the social relations of research and development, manufacturing and retailing as they are with the product itself. This approach has had some success in the margins of capitalism. However, could alternative design more deeply challenge the power of capital, the compulsion to buy and sell, the tyranny of production for profit ?

Such a challenge would require that we treat products as social relations rather than just as "things" bearing certain qualities or powers. People normally think of technology as gadgets or devices: objects that somehow carry out actions on us or for us. But we know that such gadgets are always mediating social relations within a larger social system. They have articulations and form part of a network which involves power, hierarchies and all of the other textures and structures in a given mode of production and culture. So, if we want to develop alternative/oppositional uses for technologies, we need to distinguish between the technical, physical device - the thing - and the different technological systems of relations in which we wish to locate and deploy it. The question is how to design a particular device which constrains or facilitates the mediations of particular social relations - ours versus theirs.

A technological system adapted from existing devices may not appear very different from one developed by counter-hegemonic design, but they are deeply different. The difference lies not just in their physical qualities, not in their "thingness", but in the oppositional use values or purposes for which we designed the latter. Such technologies privilege those uses, just as capitalist technologies privilege uses as "weapons against working class revolt" (Marx). And, of course, just as we can sometimes subvert capital's technologies, so too can capital co-opt products designed for liberatory uses. By such a process, "revolt" has been converted into "style" for sale, "organic foods" became new products for multinational food companies and a celebratory sub-culture became co-opted by "the Real Thing" for "the Pepsi Generation".

One of the most problematic aspects of this analysis is Left



entrepreneuralism - the attempt to work in and against the market and in and against capitalist labour process. All of the contradictions of oppositional politics become concentrated in this form of political work. We believe that theoretical perspectives become extremely important in this setting. We musn't forget that science, technology and medicine are social relations, that their research and development are labour processes, and that what we build is an object which embodies values. (see especially articles by Bob Young). The political issue is the range and depth of values that are thereby built in. This is as true of a computer as it is of a book - or of any other instrument. Will it be a "Rights of Man", "Communist Manifesto", "Mein Kampf", "Post - Industrial Society", "Socialism or Barbarism"?

In the case of attempts to design, produce and sell alternative products, we need to ask: beyond simply good intentions, what might make "left entrepreneurialism" potentially progressive ?

There are a range of elements involved in any entrepreneurial venture: definition of needs, choice of product, labour process/skill/division of labour, ownership of means of production, form of distribution and consumption, relation to and within a "community". Those elements don't necessarily get connected up in a progressive way just because one or two of them have an apparently progressive starting point. Yet proposals for alternative technologies tend to leave most of those issues untouched, as if in a "black box" to be sorted out later, if at all. If handicapped people's needs are defined in terms of being normal productive wage-labourers, then how will that definition affect the technology designed to help them ? Likewise medical technologies & techniques more generally tend to revolve around labelling people as either "wasted resources/ill" or "productive (for capital)/healthy".

Indeed, the capitalist system's normal "consenual" power over us all relies greatly upon defining our needs in the fetishised form of things - technological gadgets which "work", medical treatments which "cure", scientific facts which "tell us the truth", paid work which "employs" us, etc. If we are to avoid becoming alternative experts who "parachute in" various "technical fixes", then definitions of people's needs must be seen as themselves political choices, so that our expertise can be organically connected with needs denied or obscured by capitalism. More specifically, if monetarism defines human needs in one way (e.g. to be "free" to buy and sell on the market - place), and social-democracy in another (e.g. to be productive and be serviced), then anti-capitalist alternatives would mean encouraging their intended beneficiaries to define their own needs in oppositional ways.

Despite the great attention paid to use-values by the Lucas Aerospace shop stewards (to take the best-known example), their efforts ran up against the inherent limitations of the firm's capitalist ownership and market pressures. In particular, for Lucas workers it was one thing to design advanced technologies that preserve rather than degrade skills, yet it was quite another to overcome the market pressures that were leading management to cut labour costs and enhance profitability. And most Lucas workers wanted jobs - of some kind - more than they wanted to make "socially-useful products".

Those who encourage "alternative plans for everything" would do well to reconsider the now-famous Lucas Aerospace struggle in that light. The Combine Committee's Alternative Plan for socially useful products had a real practical possibility - that is, apart from the realities of market forces - only because of the unique combination of skilled shopfloor workers and professional staff accustomed to working together directly under the same roofs, a common feature of workers' control initiatives since the 1920s. Yet what made the Plan plausible to the workforce is also what doomed it: that is, tying the workers' interests to the viability of their "own" firm, which from the investors' standpoint was profitably viable only through continued aerospace constracts. In the end the Combine Committee's leading members, having lost much time and energy in a futile search for the "proper channels", could not fend off victimisation by the Lucas management, despite wide public sympathy. The workforce was temporarily saved from the full extent of management's proposed redundancies, but the saviour was as much renewed aerospace contracts as the workers' own resistance.

Did the workforce make any concrete gain in this overall defeat ? Yes, and that gain was the firm's paid labour time and materials which some workers liberated from managerial control as they redefined needs in terms of a re-socialised labour process, especially in order to produce some of the Alternative Plan's prototypes. This "liberated time" (or "insubordination", "theft", depending on your class standpoint) is in itself nothing unusual as an individual act, but done collectively it contains greater potential for generalising into a wider attack on capitalist property rights and the market.

What, then, about the capitalist market ? Any "alternative" technology must either capitulate to it, explore the very limited spaces within it, or at a deeper level challenge it through expropriation. Whichever the case, every aspect and articulation of a techno- logy is itself a political process of embodying and expressing values.

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Radical Science Journal, 26 Freegrove Road, London n7
Science for People/BSSRS, 25 Horsell Road, London N5

First issued as a supplement to Black Chip, 1986

**Compulsive Technology** explores the ways in which computers confront users as a cultural force, as both tool and master.
Three case studies – of schools, higher education and the artificial intelligence industry – contrast the rhetoric with the reality. Other essays explore how computers become a 'defining technology' in the general culture.
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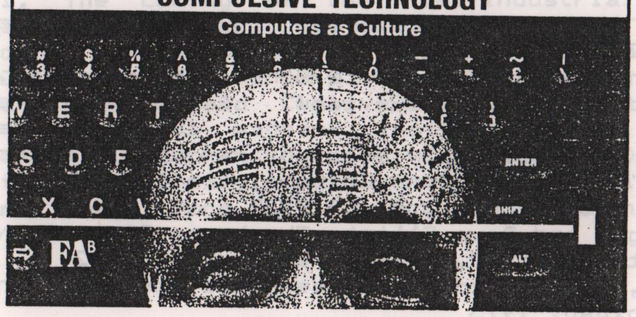
**COMPULSIVE TECHNOLOGY**

**Computers as Culture**






Black Chip in cartoon form !!!

I've received an interesting letter from Dave Thorpe, the writer of a comic album series called "Doc Chaos". The first two volumes have been produced, they cost £1.95 plus 35p p+p, and are available from ESCAPE publishing, 156 Munster Road, London SW6 5RA. O.K. Why the plug, you're thinking ? The answer is very simple, some of the central characters in the comic are a group of anarchist computer freaks. Their name is, of course, The Black Chip !!! Dave claims this is weird, synchronicity and all that (and being a subscriber to Fortean Times I am not entirely out of sympathy with the concept) but as I pointed out to Dave - What else could an anarchist computer group call itself ? (O.K. It could be called "ByteBack", "Resistors", Sinclair Research Ltd ...) I'm not sure who got to the name first, but as neither of us is claiming copyright that shouldn't matter, but I notice that "Doc Chaos" is also being developed as a T.V. series - which may have interesting implications, free publicity at least. Dave compares the paper with his fictitious creation by saying "It's not anarchist, it's libertarian. Even liberal. It's incredibly well-behaved. It's not (judging from the language of the lead article) particularly interested in demystifying the jargon... I would like to see Black Chip evolving into a mag that is a) active in demystifying computing for anarchists and other activists, b) active in promoting educational opportunities for the working class and disadvantaged groups, and c) contains some programs and hints that are of interest and use to the above groups... What we need is examples of how we can make this technology work for us, not them (State/big business/BIG FUCK-UPPERS). Like Robin Hood, we need examples to follow of how to steal the golden apples of technology for the benefit of the poor and disadvantaged...and to fuck up the state and business."

Dave also mentions the following...

"ILEA have a techno-bus operative in South London which is supposed to travel around and give people tasters of what computers can do. If you want to use it, get a group of people together to form a class and try booking it through David Waterman of Lambeth Institute, Strand Centre, Elm Park, Brixton, London SW2. It's specially for working class, community groups, disadvantaged groups.

# picket

This game is very similar to "Base Invaders" except that instead of trying to cut the fence at Greenham Common you are a miner trying to protect your job against heavy police opposition.

The object of the game is to get as many miners as possible on a picket line at the pit gate before it closes and avoid being arrested. Whenecer a new miner sets off to try and reach the gate, the numberof police increases and after a given time a policeman on horseback appears in front of the fence. If you're not quick enough a policeman appears inside the gate so you get arrested even after you have gone through.

You can have control over the level of difficulty by pressing the ESCAPE key (not break as it says in the documentation) and then you can list and edit a small section of the program. This enables you to change the following conditions:

** Number of pickets to win the game
** Number of police to begin
** Speed of the game
** When the horse comes on
** Speed at which the gate shuts

When I saw this listing I was so intrigued that I couldn"t continue playing the game until I had found out how the program had been put together. How is it possible to list a few short lines while the rest of the program remains invisible? The answer is that the BBC Micro can have more than one Basic program in memory at the same time and each of them can be accessed by altering the value of PAGE. There is also some machine code, presumably to speed things up.

Once I'd got over this and was able to play the game I came to the conclusion that this game is a considerable improvement on its predecessor and if you enjoyed playing "Base Invaders" you will certainly like "Picket".

The program was written for the BBC Micro by John Leather and is published by Leeds Soft, PO Box 84, Leeds LS1 4HU.

Mike Gascoigne

# BITS and P.C.s

Q. How did a programming punctuation error lead to the loss of a Mariner probe to Venus?
A. In a Fortran program, "DO 3 I = 1,3" was mistyped as "DO 3 I = 1.3" which was accepted by the compiler as assigning 1.3 to the variable DO31.
(You will have to read the Annals of the History of Computing, 1984 to find out why this caused the loss of the probe.)
Source : INPUT/OUTPUT.

Q. How did the Vancouver Stock Exchange index gain 571.081 points while the stock prices were unchanged ?
A. The stock index was calculated to four decimal places, but truncated (not rounded) to three. It was recomputed with each trade, some 3000 each day. The result was a loss of an index point a day, or 20 points a month. On Friday 25th November 1983, the index stood at 524.811. After incorporating three weeks of work for consultants from Toronto and California computing the proper corrections for 22 months of compounded error, the index began Monday morning at 1098.892, up 574.081. (100 % increase !!!)
Source : Toronto Star 29 Nov 1983, via INPUT/OUTPUT.

LIBERTEL VIEWDATA DATABASE

Phone : 01-733-7730

Times : 0800 - 1900 (definite)
1900 - 0800 (possible)

The intention of this database is to give space for people involved in peace, alternative health, education work, technology and ecology to communicate with each other and to explore the use of private viewdata in this context. Can be accessed on Plessey equipment, as can CommunITel, on 01-968-7402.

I hope to have a more comprehensive article on useful bulletin boards, networks, etc. in the next issue of Black Chip. Any information gratefully received. As I still haven't got a modem - and to be honest it is not one of my priorities at present - I am relying on the readership to supply the necessary info.

## Logging in to spread the red word

By JANE WYATT

**USERS of a council's computer information service were amazed to find it showing support for ... Reading Anarchists.**

**The activists had tampered with the terminal to get their own message across.**

**But they claim you don't need to be a whizkid to fool around on Berkshire's mainframe computer.**

**The culprits declared: "Berkshire's computer security is about as watertight as a teabag."**

**In their alternative newspaper, Red Rag, the anarchists give a detailed guide on how to play games on the Shire Hall terminal.**

### Abuse

**But the council has hit back at the abuse of its viewdata information service. And it denies the computer can be tampered with.**

**John Peel, assistant treasurer in charge of computers, said: "What people can do — if they are clever enough — is play games with the local terminal to leave messages."**

**The anarchists believe their message was linked to a shutdown of the viewdata service on January 27.**

**But Mr Peel hit back: "It was in no way connected with what they may have done."**

**John Doe, a spokesman for Reading Anarchists, said of the computer message: "It's a bit of cheek."**

**The anarchists were making the point that intelligent humans can scupper computer technology, he said.**

**Their message, Reading Anarchists are Wonderful, was put on one of the screens. Another earlier message cheekily advertised the anarchists' free festival.**

**Mr Doe added: "The council has never invited us to put our information on viewdata so perhaps we have to put it on this way."**

**The service, which also has terminals in Reading library, provides free information on a wide range of subjects.**

EVENING POST 13th FEB. '86

## Video Project

Some comrades are working on a video about a young man who committed suicide in Ashford Remand Centre in July 1982. His name was Jimmy Heather-Hayes. He was mentioned a lot in the Anarchist press because of his vitriolic poems and other writings. A lot of work has already gone into this project, but the last I heard they were still £750 short on their budget. If you want to get in touch with the makers please send your letter in a sealed envelope via Black Chip. (Not that this is a particularly secret project, it's just that I'm not certain if my contact wants their address broadcast, do you Phil?).



# RESOURCES

In my perusal of various radical journals I have come across quite a few articles that may be of interest to Black Chip readers. As some of these journals are quite expensive, and knowing how poor the average readership of this paper is, I thought I could give a brief resume of a few articles. Rather than getting me to photocopy the relevant article why not have fun trying to get your local library to get hold of the articles.

Locksley, Gareth. "Information technology and capitalist development" in Capital and Class 27, (Winter 1986), pp81-105.

"This article traces the development of existing Information Technologies through the organisational imperatives of the military and multinational corporations. It shows how capitalist pressure is leading to the private ownership and control over information systems and how national and international capital is restructuring to exploit IT. Also argues that IT still carries the seeds of a more equal society; the left has to rethink and appropriate IT and fight for its development under social control." (from the precis supplied with the article).

Science for People 59, (1985), has two reviews of books that I have not seen yet, which look interesting : Erik Arnold and Wendy Faulkner (eds), Smothered by Invention, Pluto Press, (1985), £7.95 which attempts to "unravel the complex issues surrounding women's relationship with technology: and Paul Thompson and Eddie Bannon, Working The System, the shop floor and new technology, Pluto Press, (1985), £4.95 looks at developments at the Plessey telecommunications plants at Edge Lane and Huyton in Liverpool, 1970-1984. This issue also has a two page spread on BSSRS Technology of Political Control Group's book TechnoCop, new police technologies, which is another worthy look at the misuse of new technology.

Dr Chris Pounder's report to the GLC Police Committee, Police Computers and the Metropolitan Police has been very nicely printed and is available free of charge from the GLC, County Hall, London SE17 P13. It is 60 pages long and required reading for anyone seeking information on the operational use of computers by the Met, the Special Branch and comparable systems. Judging from the recent Panorama programme on computer use at divisional level, there is considerable difference in the level of provision and sophistication of approach between various parts of London. The programme suggested that the use of computers actually improved detection rates, both in terms of patterns of crime being more easily detected and also the number of crimes pinned onto criminals. Needless to say as anarchists we are more worried about the ease with which computers could be used to fit-up politicals, and naturally would rather see the money spent on solving the problems that cause crime.

Community Computing Network Newsletter 9

I've started exchanging with this newsletter. Apparently the first National Community Computing Conference look place in Sheffield in September last year and was "hugely successful". I look forward to receiving the Conference Report. Community Computing is not something we have gone into in much depth in Black Chip but I would welcome any contributions on this topic from readers, as I would on trade union use of computers. Thanks to Pete Rowan for the plug for Black Chip that brought in a few subscriptions. Apparently Black Chip "is definitely not short of letters that have some depth of comment and debate" and Pete adds in relation to C.C.N.N. "why doesn't anyone write to me like that?" So if you are fed-up with waiting for the editor of this journal to print or reply to your latest missive (for which my apologies) why not write to Pete Rowan, Community Computing Network, c/o LITRU, 68 Chalton Street, London NW1 1JR, and if you want to subscribe add a cheque for £1.00 (unwaged), £5.00 (unfunded projects) or £10.00 (everybody else). Issue 9 has an interesting article by Bill Thompson, Information Technology: Helping Managers to Manage? , brief details on Libertel, and an on-going list of members with their interests - part of the networking philosophy integral to CCN. I'd love to do the same with Black Chip but given the justifiably paranoid nature of our readership it wouldn't be worthwhile (unless I hear from you saying otherwise).

# vdu's

A Campaign to fight for the rights of workers on visual display units has been launched, apparently demanding a law to limit VDU work to a maximum of 4 hours a day. This is rather daft, as Health and Safety laws have been shown to only be effective if the work force is sufficiently well organised to enforce them, in which case the law is irrelevent. However if any of our readers wishes to follow this up, they can contact the VDU Workers' Rights Campaign, c/o City Centre, 2nd Floor, 32-35 Featherstone Street, London EC1 (01-608-1338).

Relating to the health and safety aspects of VDU usage, the latest issue of Personal Computer World (March 1986) has one of the best articles on the problems associated with VDU use that I've read, by Wendie Pearson, Taking Precautions, on pages 136-137,139,141. This emphasises that the problems are in the main generated by the work environment (i.e. station design, job design etc) and that the employee has little or no control over these factors. Radiation does not seem to be problem in any but the worst designed screens, and even here health problems could as easily be caused by "environmental" factors. Please do not assume from the above that I am complacent about the potential health problem "caused" by VDU's - it's just that the problem is more of a workplace political problem (i.e. who decides how, why, if, when, how often etc which tasks are done), rather than a medical problem (i.e. some substance causing a direct physical effect). Unfortunately too many trade unionists are still looking for the medical reasons, as these can be dealt with without upsetting the political power set-up, which guarantees trade union officials a morsel of power and keeps "their" members powerless. The only solution to the problem is direct workers' control of the workplace, not the medicalisation of the problem or legislation.

Richard.

## B I T S

Apparently an American in Washington has caused chaos by locking up the City's master accounts in its computer by changing the password to improve security - and then forgetting what it had been changed to. (source: MicroMart 10 (27/3/86))

### London Anarchist Festival

On 26th and 27th April 1986, there will be held the London Anarchist Festival. It should take place at the Lewisham Odeon, Loampit Vale, Lewisham, London SE13. It can be reached by British Rail or any of the following buses: 36, 36b, 47, 21, 54, 108, 108b, 180, 185 or 199. A varied two days are promised with exhibitions, poets, videos, creche and food. There also will be a wimmen's room and plenty of space for workshops, talks and discussions. The organisers are asking for stalls, ideas etc. May I suggest that any Black Chip readers who are going meet up on Sunday afternoon, say 2.00pm. I hope to be able to attend but if you get there before I do and there's no notice about a get-together, Please organise it yourself. Also if anyone is brave enough, it might be an idea to take any gear along to show some "new tech" in action. Anyway, contact All Systems Go! c/o 121 Bookshop, 121 Railton Road, London SE24 if you're interested. I am certain that they would appreciate any practical solidarity you care to offer.



# REVIEW

Tony Solomonides and Les Levidow (eds). Compulsive Technology. Computers as Culture (Radical Science Series 18). (1985), £5.00.

This review is going to be somewnat shorter than the first draft, coz I'm blowed if I'm going to sit here and type out a review on the self same machine as what is featured on the front cover of this book/journal (i.e. a Sinclair QL) and then have the keyboard freeze up on me just before I was going to save the text to microdrive before printing it out. Spit!!!

Anyway Les and Tony are damned serious people and I'm sure they'd prefer it if their academically respectable and academically priced book/journal got a similar review and not some twit moaning about his cheap second-rate home computer. Tough!!!

Actually this is slightly relevant as one of the essays in this collection is about the way the new right with its high tec emphasis (Sinclair style "libertarianism" for example) links in with more traditional conservatism. Other offerings include a whizz round the world of Artificial Intelligence, a labour process analysis of the use of microcomputers in an educational environment, reviews of three books which take Alan Turing as their starting point, a Italian marxist look at Brzezinski's Technetronic Society and winds up with a useful bibliography which complements the one attached to the article in the supplement.

All in all worth reading but I would hesitate recommending its purchase by anyone except the terminally rich. Another problem with accessing this volume is that libraries are unlikely to take it as a single issue of a series. If it had been packaged more as a book then I'd recommend getting it through libraries, on the other hand I reckon that as an 80 page, or less, A4 pamphlet this could be put out for less than £2.00 quite easily, thus making it easier to get hold of.

Richard.

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# REVIEW

Marsh, Nikki, Computers in Voluntary Group National Council for Voluntar Organisations. (1985), 40pp. £1.00.

This slim pamphlet examines the experience five voluntary groups had in computerising their office procedures. The introduction makes a few gengral points which could be applicable to any community group or trade union when thinking about the computerisation of office practices. Among these are : the importance of consultation with the people whose work will be changed; being wary of "leading lights" who can monopolise the computer, leaving the organisation vulnerable if they leave or lose interest; whilst there is no fool-proof blueprint for getting it right, it is sensible to plan the process as carefully as possible, get "expert" help, use reliable dealers who will provide a decent after-sales service and be wary of new machines and software as they may have bugs awaiting discovery; finally the perception about computers are important, to quote Michael Jarratt "People should respect computers for their capabilities but should ensure that they remain in control."
All in all this is a very interesting and useful pamphlet and, if you can afford it, I recommend that you buy a copy.

Richard

P.S. Hi! to Penny at New Ways to Work !!!!!

## Back Issues

I sometimes get requests for back issues of Black Chip. Regretably all previous issues are currently out of print and I can't be bothered to run off the odd copies of old issues. So is there anybody amongst our august band of readers who would like to take on th e job dealing with enquiries relating to back issues. Would suit someone with access to very cheap photocopying and having a file of back issues. You can set your own price (plus postage + packing) which I expect may well be similar to the current cover price (including p+p), and should certainly not exceed it, or else you lose the franchise. O.K. ?

Offers to the usual address please.

# Forthcoming Attractions

I've listed below a few books that may be of interest that are due to published in the next few months. If anyone is feeling industrious perhaps they would like to use their initiative in obtaining copies and then submit a review to this journal for the elucidation of the readership.

Born, Rainer (ed). Artificial Intelligence, the case against. Croom Helm. (5.86) £16.95. 208pp 0-7099-3293-6

This is a heavy philosophical collection of essays, recommended for readers of Class War and similar journals who may find the tome of sufficient weight to be used in hand to hand combat.

Taylor, Trevor. Computer Crime. Hamish Hamilton. (6.86) £9.95. 224pp 0241-11778-X

At last, a manual on how to commit computer crime. According to the blurb, "Trevor Taylor tells us how it is done - including such classics as 'the salami technique', 'the Trojan horse', 'the logic bomb', 'the trap door', 'rabbits', 'foxes', and 'piggy-backing', which are all weapons in the computer criminal's armoury." Also discusses industrial spying, public sector crimes and the vulnerability of individuals. "...makes riveting reading". I hope someone with hacking experience can review this coz I haven't the foggiest what all this talk about "foxes" and "rabbits" is all about.

Campbell, Duncan and Steve Connor. On the Record: Surveillance, Computers and Privacy - the Inside Story. Michael Joseph. (5.86) £10.95 0 7181 2575 4 (hbk); £6.95 0 7181 2576 2 (pbk). 288pp.

Old Duncan, scouge of the establishment, girds his loins and strolls forth to goad the establishment with a withering denounciation of their use of Computers. This looks like being a definitive book, to be used in conjunction with the above methinks.

Winstan,Brian. Misunderstanding Media. Tavistock (?) (6.86) £20.00 0-7102-0002-1 464pp

Takes a look at four central information technologies and argues that the so-called "information revolution" is an illusion. Apparently has discovered a "law" of the suppression of radical potential which states that telecommunication technologies are only introduced into society as far as their disruptive potential is contained. And only needs 464 pages in which to prove it !!! Actually Brian Winstan's earlier books on the media, including computers, were exceptionally lucid expositions and well worth getting hold of.

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# CONTACTS

This column is an attempt to list all those organisations, newsletters and networks which may be of interest to readers of Black Chip. If you know of any other new technology orientated groups who should be included please let me know. I am happy to exchange Black Chip with anyone who sends me copies of their papers.

INTERNATIONAL

Australia : John Englart, c/o Redfern Black Rose, 36 Botany Road, Alexandria, NSW 2015. (John publishes an Australian supplement to Black Chip)

Canada : INPUT, (Initiative for the Peaceful Use of Technology), Box 248, Station B, Ottawa, K1P 6C4 (613-230-6678)

France : Libertarian Computer Association (C.L.I.) - I'm dropping this as I haven't been able to establish contact with them at the address given in previous Black Chips - if anyone knows where they are please let me know.

France : Terminal 19/48, 18 Rue de Chatillon, 75014 Paris

U.S.A. : Computer Professionals for Social Responsibility, PO Box 717, Palo Alto, California 94301 (415-322-3778)

U.S.A. : NADA, (New Art for a Dangerous Age), 195 Garfield Place, Apt.2L, Brooklyn, NY 11215

U.S.A. : North American Green Network, Russell Braen (202-265-0680) (No address, if you want to write try via Overthrow/ Y.I.P.I.S.)

U.S.A. : Overthrow/Y.I.P.I.S., PO Box 392, Canal Street Station, New York, NY 10013 (212-533-5028)

U.S.A. : Processed World, 55 Sutter Street, £ 829, San Francisco, California 94104 (415-495-6823)

U.S.A. : Resurgence, Box 2824, Station A, Champaign, Illinois 61820

U.S.A. : Silicon Daze, 365 Adelphi Street, £2, Brooklyn, New York 11238

U.S.A. : 2600, Box 752, Middle Island, New York 11953 (516-751-2600)

BRITAIN

Archives for Fortean research, 1 Shoebury Road, London E6 2AQ

Communications Campaign, The Communications Unit, The Showroom, South Block, County Hall, London SE1 (01-633-5958)

CommuniTel, (01-968-7402)

Community Computers UK, Inter-Action Trust, Royal Victoria Dock, London E16 1BT (01-511-0411/2)

Community Computing Network, c/o LITRU, 68 Chalton Street, London NW1 1JR

Electronics for Peace (London group), c/o 89 Acre Road, Kingston-upon-Thames, Surrey KT2 6ES

Electronics for Peace (national group), c/o Larkhill Cottage, Hinton Waldrist, Faringdon, Oxon. (magazine for members only)

Here and Now, Box 2, c/o Changes, 340 West Princes Street, Glasgow, Scotland G4 9HF

Interface Associates, 5 Christchurch Drive, Blackwater, Camberley, Surrey GU17 0HA

Libertel (01-733-7730)

Microsyster, Women's Computer Centre and National Women and Computing Network and Newsletter; all c/o Wesley House, 70 Great Queen Street, London WC2 (01-430-0655). PLEASE NOTE THAT THESE ARE ALL WOMEN ONLY.

Netreach, c/o 89 Mayfair Avenue, Worcester Park, Surrey. (01-337-3747)

Radical Science Journal, 26 Freegrove Road, London N7

Science for People, 25 Horsell Road, London N5 1XL

Spectacular Times, Box 99, 84b Whitechapel High Street, London E1 7QX

I have deleted the entries for the following as I haven't heard from them for some time : Leeds Soft, Magination, Sheffield Computers for People. If these are still operational please let me know.

Also the Community Computing Network, with which some of you may be familiar, has a substantial membership among the voluntary sector, so rather than duplicate their list of ITECs etc. I suggest you write to them if you want to make contact there.