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Articles
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If you are a member of BSSRS, or even a casual or regular reader of Science for People, there's a fair chance that you work in education or health or in a government sponsored organisation. Your jobs are most likely being affected by the 'cuts'. The services which you work in, are now being drastically cut back.

This may, for you, amount to a deterioration in conditions of service, or even a weakening of job security, but taken together with similar cuts elsewhere, it forms part of a massive erosion of our already very imperfect system of social services. And when social services are cut it is the standard of living of those already at the bottom of the ladder which will be affected most. With the stroke of an ideological pen the services you are providing (health, housing and education) have become 'non-productive' luxuries, which the working class are told they can no longer afford. What are the reasons for the cuts? And why are particular areas of public expenditure being singled out for excessively rapacious attention?

WHERE ARE THE CUTS TAKING PLACE?

Because of the close inter-relation between industry and public expenditure the areas in which the cuts can take place are limited. Healey's stated plans for public expenditure in 1976-77 are that it must be cut by £1,100 million. Overall, that amounts to a cut of 1.3% while the specific sectors of health, social services, public transport and education are to be cut by approximately 10%. To give you some idea of what this means in real terms:

The National Health Service had £111 million cut off its budget in 1973. A further £75 million has been deduced from its proposed 1976 budget. The NHS expenditure as a proportion of overall government expenditure has declined from: 15.1% in 1964, 13.75% in 1973 and 11.58 in 1974.

Housing: allocations for housing to local authorities has been cut by £115 million in 1976/77 budgets. In December 1974 local authorities were instructed to plan for nil growth in repairs and maintenance in 1975/76.

Education: most of the cuts have taken place in capital expenditure. Capital expenditure provides the infrastructure of the education service, e.g. buildings, furnishing. In 1972/3 capital expenditure was cut by a third. In 1975/76 there was nil growth, local authorities were directed to keep capital spending at the 1974 level.

WHAT DOES THIS MEAN IN PRACTICE?

The National Health Service

The immediate effect of these cuts will already have been felt by scientific and technical workers occupied in traditionally low-security jobs, particularly research workers, who will have seen their own projects, or projects that they know of, brought to a premature end or squeezed for finance. More generally, some smaller hospitals have already been closed, as a foretaste of what is to come. To date, though, this has meant that it has been the ancillary worker who has found his/her employment threatened rather than his/her better paid and qualified colleague.

But we have only so far seen a hint of the real cuts in store. The major 'savings' are being made in capital expenditure and a proposed programme of hospital 'rationalisation'. That is, small local hospitals will be closed down to be replaced by larger centralised hospitals, which won't have been built.

A not insignificant side effect of the closures already undertaken has been the demonstration of the predicted ineffectiveness of the newly established community health councils—the lynchpins of the 'scientifically' reorganised NHS. Without access to the information that is currently jealously retained in the privileged possession of district, area and regional administrators the councils can never play a part in the construction of the health service—and alone stopping its dismantling.

Education

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Further and Higher Education

Even at the top of the pyramid traditionally well-cocooned and privileged universities are already reporting penny-pinching, cut-backs in staff and a general deterioration in working conditions. But as you move down the story gets worse. Polytechnics and technical colleges are being forced towards 'Delaney norms' of one staff member per 7.5-8.5 students for lab/studio-based courses, and 1 to 9.2-10.2 for lecture-based courses. This is not, of course, being achieved by increasing student numbers but by cutting staff. One London polytechnic
has already had its establishment cut by 10%.

It will be the courses that are currently worse off; non-degree courses, courses with a high proportion of working-class and overseas students, that will be under a greater threat than the more privileged courses. The threat will come partly from outside. Working students on part-time courses will find their employers assessing the return on their absence on day-release purely in economic terms rather than in terms of the personal development of the student. They will find that it will become increasingly possible to fill 'skilled' and 'semiskilled' posts from the growing dole queue, and thus avoid the uncertain investment of 'training-up' existing staff. But there is also a very serious threat from within education itself. Local education authorities have already reduced the number of discretionary award, and at least one authority is known to be thinking of abandoning them altogether. The Inner London Education Authority are already discussing the possibility of closing down courses, departments or even colleges with any external funding proportion of over twenty per cent — this notwithstanding the massive increases in overseas students' fees already imposed and the further increases still being proposed. (See THES 16.1.76.)

Primary and Secondary Education

Primary and secondary education, accounting, as they do, for the largest part of governmental education spending, have been consistently the areas where successive governments have applied their economic regulator to the economy by carrying out sweeping 'savings'. Since the Barber cuts of 1972/3, continued through subsequent Labour governments, capital spending in primary and secondary education has fallen from £610m to £365m. For 1975/6 local authorities have been directed to keep capital spending at the 1974 level. The scrapping of plans to replace out-dated and over-crowded school accommodation will, necessarily, hit the most under-privileged areas worst, and has, in at least one case, delayed plans for comprehensive reorganisation.

But the bulk of educational spending is not capital but current (£3½b); and it is this area that local authorities are immediately looking to for pruning in order to balance their annual accounts. Teachers' salaries make up approximately fifty per cent of current spending. As within FE, cuts will be effected by playing the 'student-staff ratio trick'. Only two years ago we heard of escalating teachers' shortages in London. Now all of a sudden we find that new London teachers are unable to find jobs. Whereas educational planners were trying to get staff-pupil ratios below 1 to 30, 1 to 40 is now more generally accepted as the norm. And, as the intake to Colleges of Education will be cut from 29,000 in 1975 to 20,000 in 1976, there can be no short to middle term prospect of a reversal of this downhill trend.

Those who are currently worst-off will not only be most affected because they live in areas where there is the smallest margin within which to make cuts. Working mothers will also be forced to stay at home as some schools terminate school meals, others increase prices and decrease quality, and school terms are generally shortened in order to reduce overheads.

Nursery Education

That this will, concomitantly, help to conceal real increases in unemployment will not have gone unnoticed by state planners. This is no doubt a main reason why another area has been selected for particularly brutal cuts has been nursery education. Once again the story is the same. Some nurseries have already been closed. And the already meagre building programmes for 1975/6 and 1976/7 have been axed left, right and centre.

The Health and Safety at Work Act

The new Health and Safety at Work Act has not been left untainted by the cuts.

The new Act which became law in April of 1975 considerably extended the areas that have to be covered by HM Factory Inspectorate. It is now their duty to protect and inspect nearly all the workers in industry and it includes the protection of the general public.

In July of Factory Inspectorate's union — The Institution of Professional Civil Servants — which in the past has not been noted as the most radical of unions, issued a press statement which stated: — "With less than 500 operational staff this body (Factory Inspectorate) was unable to cope adequately with the provisions of the previous Factories Act, which had a much more limited scope of responsibility. Under the new Act the number of people, whose places of work should be inspected by the Factory Inspectorate, is over 20 million."

Whilst the Health and Safety at Work Act was being debated in parliament MPs stressed the urgent need to increase the size of the Factory Inspectorate. Michael Foot, Secretary of Employment, promised a 50% increase in the size of the Factory Inspectorate over the next five years, which will bring their numbers up to 750 inspectors. This modest increase in itself is totally inadequate, and now the IPCS has stated that from information available to them they are convinced that because of the 'current financial stringency' this promise will not be kept.

"As soon as the working-class, stunned by the noise and turmoil of the new system of production, recovered, in some measure, its senses, its resistance began, and first in the native land of machinism, in England. For 30 years, however, the concessions conquered by the workpeople were purely nominal. Parliament passed 5 Labour Laws between 1802 and 1833, but was shrewd enough not to vote a penny for their carrying out, for the requisite officials, &c."

— Capital, Vol I, Chapter 10, Section 6

The effect of this will mean that the Act will be to a large extent inoperative. The Government already have to pay out approximately £1,000 million annually due to industrial accidents and ill health, thus even in their terms this is a false economy. The Government are quite prepared to sacrifice the health and lives of those workers in industry in order to try and 'save' the decaying capitalist system.

IPCS Deputy General Secretary, Cyril Cooper stated that a large number of factories will receive no effective inspection whatsoever unless there are immediate substantial increases in the Factory Inspectorate. If the increase is not forthcoming "The cost to the working population in death and suffering will be enormous."

WHY ARE THE CUTS TAKING PLACE?

Government's View

The reason given by the Government for the cuts in social expenditure is that 'British Industry' is in the doldrums, our level of industrial output is now down to that of the early sixties. Whilst public spending as a proportion of the Gross National Product (GNP) has recently been expanding rapidly so has the proportion of the workforce working in the service industries. Thus the Government state that 'we' must cut social expenditure in order to have more funds available to regenerate 'our' flagging industry. Wedgewood Benn shows clearly in this quote from Trade and Industry 4/4/75 the importance the Government puts on the concentration of funds in industry.

"It is no exaggeration to say that 'Britain's' [mine] whole future depends on major investment in the expansion and re-equipping of our manufacturing plants aimed at restoring British industry to a competitive position in the world and home markets."
Our View
The Government has continually emphasized the 'British' nature of the crisis. But the crisis is not solely British, it is an international crisis of capitalism. It has been caused by the very existence of a system of production for profit. The driving force of capitalism is not the satisfaction of people's needs, the production of use values, but the push for the greater accumulation of profit. But this force also produces a counter-acting tendency - a tendency for the rate of profit to fall. And this tendency will, from time to time, when the 'balance' of the system becomes structurally disturbed, force a crash into crisis. Thus, ultimately, the crisis is a crisis of profitability.

But why will the rate of profit tend to fall? The struggle to increase productivity, by increasing output per person, reduces the number of workers employed relative to the mass of machinery and raw materials worked by them. But profit only comes from the exploitation of workers. As productivity increases then, there are relatively fewer workers exploited, and a larger cost of machinery etc., over which to calculate the rate of profit. The expansion of capital, that increases in productivity then tend to bring about, produces a fall in profit rates. So that the rate of profit tends to fall not because workers are less exploited (wage increases) but because they are more exploited (increased productivity).

"The limitations of the capitalist mode of production come to the surface ... in that the development of the productivity of labour creates out of the falling rate of profit a law which at a certain point comes into antagonistic conflict with this development and must be overcome constantly through crises"

-Capital, Vol.III, p.258

This long term tendency within capitalism has been exacerbated over recent years by the inflationary spiral, fuelled in Britain by the opportunism of property speculators, fringe bankers and their like, encouraged, and in many cases actually financed, by successive labour and conservative governments, and the heightened economic and political bargaining power of the Western labour movements.

The crisis is a crisis of capitalism. It must not be patched up, once again, at the expense of scientific, technical, non-manual or manual workers.

Amanda Farmer
Colin Thunhurst

For further information on where and how the cuts are being applied we would recommend Cutting the Welfare State (Who Profits), jointly published by the Counter Information Services and the Community Development Project Information Unit. Copies are available from CIS, 9 Poland Street, W1. Price 45p + 15p p&p (bulk orders at reduced price).
BEHAVIOURAL GENETICS AND THE CASE OF THE XYY SYNDROME

Since Darwin proposed a theory of evolution and Mendelian genetics suggested its mechanism, there has been speculation about the extent to which differences in human abilities and behaviour have a genetic basis. Theories which suggest that they do have such a basis have been eagerly sought as justification for the continued oppression of the poor, blacks, women, Jews and so on. The ideas of the early eugenicists have now largely fallen out of favour, but the issue of biological versus social determinism of abilities and behaviour is far from dead. Indeed, in the face of race riots in the US in the 60s, the growth of the Women's Liberation movement and the economic crisis of Western capitalism, there has been a renewal of interest in the subject, and we have found ourselves embroiled in the race and IQ controversy, and more recently, in debates about sex differences and abilities. In the course of these battles we have been treated to such gems of "scientific" wisdom as:

"There are intelligence genes, which are found in different proportions ... the number of intelligence genes seems lower overall, in the black population than in the white" (Jensen, 1969).

"... the patterning of abilities is characteristically different in men and women ... for many of these characteristic features there are biological bases ... that sex differences do exist is an incontrovertible biological fact" (Hutt, 1972).

In a society where there is an ideology of science as an objective and value-neutral activity, and of scientists as dispassionate observers dedicated to the discovery of "truth", the dangers of such statements are only too clear. And this ideology of science grows more powerful as the continued advance of science and technology increases public mystification about its nature and reinforces deference to scientific expertise over an ever wider range of issues. BSSRS has long sought to challenge this ideology of science, to debunk the myth of scientific neutrality and to expose both the ideological content and context of science under capitalism.

This article is one strand of that campaign. It describes the controversy surrounding the attempt to relate a particular chromosomal anomaly to "deviant" behaviour, and of the campaign organised against it by members of the Genetic Engineering group of Boston Science for the People. We publish it as a gesture of solidarity with and support for, their campaign.

"It's all in yer genes, dear"

The race/IQ debate is well known and well documented, and the excellent pamphlet Race, IQ and the Class Society has demonstrated the fallacious nature of the assumptions upon which the racist work of Jensen, Herrnstein, Shockley and others of the new eugenicist movement is based. Less well known (perhaps because radical scientists have been slow to add sexism to their list of -isms ...) is the material on sex differences which purports to show that females and males are suited to different social roles contingent upon the biological division of labour for reproduction, that observed differences in abilities and behaviour between the sexes reflect this, and that these differences have a biological basis. Work of this kind is part of increased speculation about the genetic basis of a wide range of human behaviour, and opens up the possibility for further ideological applications of the "science" of behavioural genetics.

The XYY Syndrome

One example of such work concerns the XYY syndrome. "Normal" males and females carry two sex chromosomes- XX in the female and XY in the male. A variety of anomalies are known to occur: XYY, XXY, XXXY, XO etc. (XYY males have an additional male chromosome, XXY an additional female chromosome, XO people have only one X chromosome and so on). XYY males are the largest sub-group of these chromosomal anomalies (0.6% of the population are XYY males). They are reported to be tall, impulsive individuals who are unable to defer gratification.

The XYY controversy began in 1965 when Jacobs and her colleagues reported that they had found a higher than expected incidence of XYY males in a mental-penal institution in Scotland (3.5%). Later work by Hook, in the United States, confirmed and extended these findings to both mental and penal institutions and led to the XYY chromosome configuration being labelled the "criminal chromosome". Fuel was added to this particular fire by the suggestion (later retracted) that Richard Spark, who had murdered several nurses in the Chicago area was an XYY male.

The link between an additional Y chromosome and criminality was thus developed. Its suggestion led in at least two US States, to the screening of juvenile delinquents for an additional Y chromosome, and in one state XYY males were treated with female sex hormones in an attempt to restore normal behaviour! It has also led to a number of programmes of screening newly born males in order to identify those individuals who are potentially "at risk" (or a risk?) because of this anomaly. In some cases the parents of such children have been informed of their child's "defect" thus giving rise to undue anxieties on their part which, of course, have implications for their kid's development (ever heard of self-fulfilling prophecies?) and to the stigmatisation of the kids so-labelled.

Even if an additional Y chromosome has the effects implied by Jacobs et al, the number of people "at risk" is extremely small, given that only 0.6% of the whole population have this anomaly. That so much publicity has been given to the "criminal chromosome", however, indicates the political implications of such assertions.
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The Evidence

Does an additional Y chromosome actually have the effect implied? An article in \textit{New Scientist} in 1974 by two members of the Boston Science for the People group (Jon Beckwith and Jon King) suggested that "numerous flaws in the methodology of the [XYY] studies and in their interpretation are obvious". For example, because XYY males are supposed to be taller than average, many screenings in penal institutions examined only tall inmates. This, of course, makes it hard to tell whether XYY is associated with being an inmate or being tall. Similarly only a very small proportion of all XYY individuals are actually found in mental and penal institutions, what of all the others? Perhaps XYY individuals show a slightly higher representation in both mental and penal institutions and in very socially productive activities. And, as Beckwith and King pointed out, lots of questions haven't been asked vis-à-vis the XYY syndrome. For example, is the supposed deviancy of XYY males "an inevitable result of neurological disorders caused by the extra Y chromosome?" Or could it be a consequence of the interaction between the physical characteristics of certain XYY males (height, acne etc), and the way the rest of society treats them which channels them towards anti-social behaviour? The cause of XYY males represents yet another example of science (this time in the form of a biological "explanation" of behaviour) being used to avoid discussion of the social, psychological and political influences on individual behaviour. The implications of such "research" are dangerous, if a little absurd. Beckwith and King again: "Even admitting an increased risk of 'anti-social' behaviour among a small fraction of XYY males, what benefits will derive from detecting these individuals? There is no known therapy for such behaviour. And if the major factor determining that behaviour is socio-economic background, therapeutic intervention becomes a little absurd. We already know, for instance, that a black man growing up in the United States has a higher risk of ending up in a prison than a white man. Do we, therefore, screen all newborns for their colour and then attempt therapy on all blacks to prevent the development of 'deviant' behaviour, which is mainly a reflection of oppressive social conditions?"

It is not beyond the bounds of possibility, however, that behavioural genetics is going to attempt to make more and more dubious cause-effect links of the XYY and criminality type and programmes of genetic screening for a large range of "defects" can be envisaged. Such programmes could then be the basis of other programmes to "control" the deviant individuals, or even eliminate them, if the screening is done "in utero". The attribution of behaviour exclusively to a biological base is misguided: behaviour is complex interaction of both biology and culture. Biological arguments with their sexist, racist and eugenicist implications must be confronted... which brings us back to Beckwith, King and the campaign in Boston.

The Boston Campaign

The Boston Hospital for Women (formerly the Boston Lying-in Hospital) has been screening male babies for an additional Y chromosome since 1968. The programme, led by psychiatrist Gerald Walzer, aimed to follow up a sample of XYY children to chart their subsequent behavioural development, and in particular to detect any "psychopathology". The Boston group publicly slammed their decision after a call from an admissions aid at the hospital who was unhappy about the way women brought into hospital, often in labour, had to sign consent agreements. They focused their campaign around three issues:

(i) the dubious nature of the "informed consent" procedure. This, they felt, was suspect on two grounds. Firstly, that parents were told that their child was XYY, thus creating anxiety, labelling, stigmatisation etc which could affect the results of the study, and secondly, that the "informed consent" procedure did not refer to XYY or to a study. One of the many forms the parents signed at the hospital was one which stated "All male infants get a genetic screening blood test... This has become an integral part of the hospital's routine... If an abnormality is found, you will be informed." As such the consent procedure appeared to violate Federal guidelines for studies involving human subjects.

(ii) the effect on the kids. They felt that the risks of such a screening programme in terms of stigmatisation, self-fulfilling prophecies and so on, far outweighed the benefits (if there were any). Also only one tenth of '1L' of the kids in Walzer's sample were XYY, that is 13 kids out of a sample of 13,000, and what kind of conclusions could be drawn from a sample of that size?

(iii) the ideological issue. The implications of the attempt to offer a biological 'explanation' of behaviour and therefore to justify continued neglect of other—social, political, economic and so on—implications on behaviour.

The Boston group's case eventually appeared before the Committee on Medical Research in October 1974. This committee is empowered to examine the ethical issues of research and initially it was felt that the SESPA criticisms might be having some effect. But after long delays it became clear that the committee had no power and would anyway never consider making a decision to stop research. In the face of this the campaign decided to 'go public', and try to interest the press again. This time they had more success, and in November 1974, the issue broke in the press. In December, amidst further publicity, the committee on Medical Research reported and gave the study a green light. It was subsequently discovered that a majority had voted that the risks outweighed the benefits, and that Farnsworth, the Committee Chairperson, had been engaged in certain deceit!

The case was, however, passed on to the Human Studies Committee which has an explicit brief to examine consent procedures. The Boston group's criticisms weren't received any more favourably here though, and in January 1975 this Committee concluded that they too thought the study was OK. (They managed to reach this conclusion without asking any of the critics to present their case and without responding to any of their main points.)

Support for the campaign to stop the research was growing, however, both within Harvard Medical School and outside it. The next step was the presentation of a petition to the Medical School Faculty requesting a reopening of the Human Studies Committee hearing. Despite the sympathy for the campaign in the Faculty, when the vote was taken the motion was defeated. Too many sympathisers had felt too fearful of their personal positions to support it in public.

Outside the Medical School other groups had taken up the issue as a result of publicity given to the Science for the People campaign (notably the Children's Defence Fund, Washington; the Massachusetts Advocacy Committee, and the Massachusetts Attorney General's Office). Their activities were increasing the pressure on Walzer.

Finally this pressure got too much for Walzer and on May 1st 1975 the screening programme was stopped. Its closure marks a victory for the Boston group, and shows that...
The case of the XYY syndrome is possible. Secondly, the issue provides another example of the interaction between science and capitalism. The ideology of science will, of course, mean that consideration of the environmental determinants of behaviour are ruled both out of court and irrelevant. Thirdly, it demonstrates the importance of confronting scientists with the real implications of their work under capitalism. The myth of the neutrality of science still lives, yet science today is about as neutral as a bucket of acid. The somewhat hysterical reaction to Beckwith and King illustrates how threatened many scientists feel when their cosy world is challenged. If we are to radicalise them and to bring about a science for people we must keep up this kind of pressure, and engage in more campaigns of the type described here. Those who defend the status quo must be confronted by our critique until they can ignore it, dismiss it, and mock it no longer. Fourthly, in a society which defers to scientific expertise, critiques of the dubious assumptions and methodologies of the behavioural geneticists are very important. We must mount our attack not only in terms of the social implications of this research, but also on its own terms. Too many people accept the 'findings' of science at face-value and are open to manipulation, exploitation and oppression on the basis of this. Under capitalism science is not neutral, is not dedicated to the pursuit of some objective truth. Instead it is politics and should be recognised as such.

Dot Griffiths
P.S. Self-criticism: I still haven't learnt to type. Many thanks to Liz Utz for typing this for me. Thanks also to Jo Schwartz for helping me with the details of the Boston Science for the People campaign.
"How could the essential character of the capitalist method of production be better shown than by the need for forcing upon it by acts of parliament, the simplest appliances for maintaining cleanliness and health?"

— Karl Marx, Capital, Vol.1

HM Factory Inspectorate (FI) is now part of the Health and Safety (H&S) Executive, which is responsible to the H&S Commission. The latter with an annual budget of £26m, consists of 3 Trade Union members, 3 CBI members, some 'technical advisors' and a Labour chairman. This set-up can be seen as an attempt to create the illusion that H&S is neutral and apolitical. The Factory Inspectorate's popular image is that of the official guardian of workers' health and safety, achieving higher and higher standards with each decade that passes. In reality, a tiny overworked and weak Inspectorate tries to cope with an ever-expanding number of workplaces and hazards. It is strait-jacketed by bureaucratic structures, and trained as a free consultant service to industry, rather than as a law enforcement agency. The Inspectorate functions to take the heat out of a conflict situation, to defuse the conflict between workers and management—the conflict between health and production pressures. Even within its own terms, the Inspectorate has an impossible task and fails repeatedly to protect workers. But to simply improve the Inspectorate (a bigger and better Inspectorate) is no solution to accidents and disease at work. Real solutions will only be reached when those exposed to work hazards organise outside government agencies and fight for their own health and safety, their own conditions.

"Five hundred Inspectors are in the field to 'police' the workplaces of 20 million people."

The FI attempt to cope with an annual toll of 50,000 accidents and 1,000 deaths, plus the unknown incidence of industrial disease. Their daily workload is heavy, entailing a great deal of office work (e.g. reports, preparation of court cases), travelling to and from factories as well as inspecting them, giving lectures, going on courses, and presenting cases in court. There are so few inspectors in any given area that a system of priorities is forced, which usually means a minimum of actual inspection. Until recently every workplace was visited on average once in four years. Now with the new Health and Safety at Work Act many more factories and research labs etc are covered by legislation.

The Department of Employment has promised to increase the force by 50%. However, the factory inspectors' union, the Institute of Professional Civil Servants—the union for the 'professionals'—considers that "because of the current financial stringency this promise will not be kept". They consider that as "the estimated cost to the community of industrial accidents and ill-health is now in the region of £1,000m annually, this is, to put it mildly, a false economy". Things haven't changed much since Marx wrote in the 19th century, "Parliament passed 5 Labour Laws between 1802 and 1833, but was shrewd enough not to vote a penny for their carrying out, for the requisite officials, etc." The State keeps to a minimum expenditure on non-productive sectors of the economy like the Factory Inspectorate, and in times of crisis such social services are severely cut-back.

Problems are compounded by the fact that the Inspectorate
is currently in the throes of reorganisation, involving a move towards increased specialisation. Leaks to the press have revealed widespread discontent, but reorganisation appears to be going ahead. The struggles have been around the issue of control, with administrators taking over from "the professionals". Specialisation itself has not really been attacked; the ethos of professionalism which pervades the Inspectorate can be seen in their reluctance to take up proposals for independent worker inspectors. This would reduce their power as technical experts. The insistence on their professionalism as 'independent technical investigators' reinforces the existing relations of production, where decision making is taken out of the hands of the workers.

Chrysotile asbestos—a highly dangerous substance to anyone who inhales it—was allowed to accumulate at the premises of a Northampton light engineering firm. The prosecuting factory inspector told the court: "We are not prepared to stand by and let people be exposed to a dust which is a killer and can kill in a particularly insidious way." The firm was fined £50.

The Approach: Softly, softly
An inspector's training does not lead him or her to define the job as that of law enforcement agent. (The Inspectorate is comprised of men and women (6%), largely from management or academic backgrounds—PhD plus industrial experience is the preferred qualification.) A Civil Service training results in management orientation, and workers are rarely if ever consulted during the course of an inspection. John Cronin, ex-factory inspector commented that "It is considered ungentlemanly to go behind an employer's back to a worker, to issue warnings, and it is not 'departmental practice' to do this ... You couldn't police effectively. You didn't even try to police effectively." The working relationship is with management. Inspectors constantly emphasize their role as advisors, as persuaders, nagging and encouraging employers to heed the law "if possible". The law is treated as negotiable. Only after repeated discussions and persuasive letters is prosecution even considered.

In dealing with employers, inspectors see only one side of the picture. "Remember safety and health cost money." Production for profit means that economic considerations can pose serious problems for the individual inspector who may be fighting in the interests of workers. The factory inspector is often faced with the dilemma of closing an unsafe plant, or allowing it to remain open—dangerous but profitable—so that jobs can be maintained.

Like other scientists, the Factory Inspectorate sees its role as neutral and thus objective, and this view is encouraged as technical specialisation increases. However, the decisions actually being made are 'objective' decisions of balancing costs and returns on health. This is part of the ideology of management science. Brian Harvey, ex-Chief Inspector of Factories said: "Above all the need is for the problems of health and safety to be part of management expertise which is being continuously deployed to make the business profitable."

A typical example of how the Inspectorate operates was when one officer visited a factory with 50 machines needing guards. He told the employer that he expected to see them on within six months (this was before the new Act; now he could serve a notice). The employer explained that it would take two years, as production would stop for the placement of each guard. The inspector replied, "I insist they go on within nine months". Shop stewards who heard the satisfied inspector tell the story, argued that if the machines needed guards, he should have told them. They would decide how 'economically feasible' things were. For many inspectors do not inform workers thoroughly of the problems, thus preventing them becoming meaningfully involved. It's then all blamed on apathy.

"The law serves best the interests of those who have a hand in making it" (Pat Kinnersley)
The law is so vague that it is often impossible to bring changes. The new HASAW Act has been hailed as revolutionary and welcomed by many inspectors, because it appears to give them more power. They may now serve Prohibition Notices which prevent the continuing operation of a dangerous plant or process until the fault is rectified. This was to be the much needed big stick, although in practice it is not in fact proving to be much of a deterrent. For example, the Appleby-Frodingham steelworks where a blast furnace explosion killed 11 men in December 1975, had in that year received 15 notices, 6 of which were prohibitions. The company was also prosecuted twice last year—once when a man was killed, Appleby-Frodingham was then fined the 'crippling' sum of £200. This is only one example of the greatest stumbling block in the path of the Inspectorate: the courts. The magistrates are, to put it mildly, unsympathetic. If and when the Inspectorate brings a prosecution, the magistrate is usually more in sympathy with the defendant ("There but for the grace of God go I"). The minute fines which are imposed in the majority of cases serve as a disincentive to prosecution, for every inspector is loath to be made a fool of in court. The threat of prosecution is in fact the preferred weapon.

"Look at some of the fines we get. Reported in the press they can only do harm to our effectiveness. I have been discouraged from prosecuting by the attitudes of the Courts themselves—but only some of them. I could advise people setting up new factories of the best areas for them if they think they may fall foul of the Factory Inspectorate!"

"There are quite a number of cases I would like to take but can simply not justify with the resources available. Worse, there are many accidents I feel merit investigation which have been left. I am sure I am not alone in this situation."

—J.M. Frost, H M District Inspector of Factories, Wigan, in Safety & Rescue, August 1975

The law does not define employers as criminals. In France, where there is a union of magistrates, several of them have imposed severe penalties on employers. One 'Red Judge' found the manager of a factory to be guilty of manslaughter when an employee was crushed between two wagons (track layout was against factory regulations). This was the third death as a result of industrial injury in three years in that factory, and the judge, Mr de Charette, stated that manage-
ment's negligence was tantamount to premeditated murder and sentenced the employer to two years' imprisonment. Needless to say, the judicial establishment has made sure the employer was soon released and things are being made difficult for the judge. In this country, the first case of an indictable offence (which could, under the new HASAW Act result in a two year sentence or £50,000) has led to a fine of £400! The well-known outrages of asbestosis are also clear examples of employers getting away with murder.

Research too plays its part in crippling the Inspectorate. Industry has completely resisted regulations requiring pre-testing of chemicals in the UK while in the US they are fighting a rearguard action against the introduction of the Toxic Control Bill. Research facilities here are quite simply inadequate for epidemiological research and for the testing required to monitor hazards. Similarly, with regard to medicine, the lack of a preventative health system based around the workplace costs the NHS huge sums of money and makes it impossible for the Inspectorate to do anything but sound the alarm after a disaster.

Edinburgh inspector, Mr Johnston:

"There was one case we had of a textile factory with an evil wool shredding machine—very dangerous. The firm employed a mentally retarded man to hand-feed wool into the machine. Very soon he was dragged in and mangled. The fine was fined a few hundred pounds. The Court of Appeal lowered the fine to almost nothing and ordered the inspector to pay the costs."

"Before the Act the average fine was about £30, no matter the offence, since the Act it's still £30 .... The Fiscal now prosecutes for us in Scotland and in fact he is getting lower fines than we did! To him our cases are like parking offences."

Towards workers' control

Some individual inspectors are becoming more aware of their own situation. Several of them undertook a work to rule in opposition to the proposed reorganisation, and the union eventually gave support to the struggle. However, the inspectors are not challenging the system which they are well aware of: the conflict between workers and management, in which they are mediators. Further developments within the Inspectorate will probably follow that of many scientists/technicians. A split will form where there will be those who see themselves as part of the management and those who align with workers. The recent death of a London-based factory inspector, Mr Nicholls, caused by asbestosis contracted in the course of his employment may cause some stirring within the ranks ....

"It is important that we work with those factory inspectors who do align with workers and that we use them where possible for advice and help, especially where they are willing to ignore the Official Secrets Act which members of the Inspectorate still seem sworn to respect. It is not enough, however, to depend on individual renegade inspectors. The solution cannot come from government agencies. "Such institutions are tools which can be made more serviceable by workers, but they can never be more than pruning knives, trimming off symptoms without threatening the economic roots of the disease." (Pat Kinnersley)

To be really effective, workers must become their own inspectors. This obviously will not occur overnight; nor will the new consultative proposals on Safety Representatives* help very much. These provide for safety representatives to inspect at 3-monthly intervals—and then only after having written to inform the employer. This is a regressive step from the powers of the Mines and Quarries Act of 1954 (sec. 123) which was based on workers' rights to mines inspections dating from 1872. Similarly the other developments required for workers becoming their own inspectors have been overshadowed by two other proposals. These allow for technical advisors to be invited to the plant—but only with the permission of the employer. They also allow for access to documents—other than medical records. Many shop stewards will already have achieved these rights; these proposals will obstruct workers from becoming more meaningfully involved in the technical areas of bargaining for healthy conditions. The bureaucracies of the Trade Unions and the TUC, in accepting these proposals, reflect their attitude. They are geared to compensation rather than prevention; they accept the idea that there is a (technically difficult) area of non-conflict, requiring co-operation with management.

Health and safety at work are not yet established as a right. The fight for health and safety in the workplace is one aspect of control of the production process, and this in turn is part of the struggle for control of our own lives.

MARIANNE CRAIG

*Institute of Professional Civil Servants' figures, 1975.

BSSRS & LOCAL GROUP NEWS

Bulletins
1976 sees the launching of two BSSRS bulletins. The first of these is the International Bulletin, which aims to keep BSSRS members in touch with the society’s activities; to provide an ongoing forum for the discussion of policy issues and to circulate contributions towards the formulation of a “statement of aims” for presentation at the 1976 AGM. The cost is £1 for six issues, and all members should by now have received a complimentary first issue.

The other bulletin is the Industrial Health Action Bulletin, which will aim to cover three main areas of concern: to outline present developments and precedents being established on the shop floor, with relation to health and safety and, with special reference to the new Act, to outline recent legal or court verdicts; to carry news on new research developments; to carry lists of contacts and relevant publications. It is intended to have a relatively small circulation, consisting of shop stewards and BSSRS members directly involved with health struggles.

Pamphlets
Oil: A Workers’ Guide to the Health Hazards and How to Fight Them, is the title of the second pamphlet in our occupational health series which has just been published (see separate advert). The first one, Noise: Fighting the Most Widespread Industrial Disease, published last October, has already sold over 1,200 copies, nearly half of them to trade-unionists. It has been reviewed or mentioned in The Guardian, The Morning Star, The Daily Telegraph, the SOGAT Journal, The Iron and Steel Trades Confederation Journal, The AUEW Journal and many others (including various health and safety magazines, professional, and even management journals!).

The SOGAT Journal concluded: “We would recommend this pamphlet to our members; it is well written in simple, easily understood terms, unlike most tracts, which tend to ‘blind one with science’.” A British Leyland shop steward who uses a percussion rivet gun, writes: “I’ve read your pamphlet with great interest and have found it excellent material, being a sufferer of ringing in the ear. I will use Noise to the utmost effect and raise the issue again on the shop steward committee.” Copies of Noise are still available, price 25p (20p post-free to Trade Unions taking 10 copies or more).

Local Groups
Eight local groups are in existence around the country and four new ones may be starting shortly, in Bath, Birmingham, Imperial College (London), and N.E. London Polytechnic. (Contact the office for further information.) Of the eight existing groups, six are university-based, one is polytechnic-based and one is fairly well integrated with the local community.

The latter group in Sheffield is mainly involved in occupational health work and have been providing noise meters and dust-sampling monitors to trade unions together with information on dusts, fumes and welding hazards. They have also been collaborating with the WEA in running hazards-of-work courses.

The Sheffield group would now like to establish an Occupational and Environmental Health and Safety Information Centre to provide information to workers and local residents and to initiate discussion and to encourage other organisations to organise courses. Ideally, they would like to find accommodation in the city centre to be staffed by one full-time BSSRS worker and volunteers.

Not surprisingly, perhaps, the university and polytechnic groups all have an almost exclusively academic membership (despite Manchester’s attempt to find non-university venues). Moreover, the student component of each group tends to turn over with each new academic year and numbers and commitment both tend to fluctuate.

Brighton (University of Sussex) are investigating health hazards and legislation (or lack of it) in agriculture, concentrating on pesticides, grain-dust allergies, vibration, noise, hypothermia, strain, etc. They have contacts with a similar group in Rome. Offers of help to Margaret Boxer, School of Biological Studies.

As a result of the Brighton group’s investigation of trike levels in a local factory (see SP 30), the firm involved threatened legal action and the case was subsequently taken up by the local paper and Radio Brighton, resulting in the firm eventually being forced to make certain changes.

Brunel University group have carried out a questionnaire project on work placements to investigate exploitation of students. They run a bookstall and have organised several meetings with outside speakers.

Canterbury (University of Kent) have three sub-groups working on industrial health, lab safety and military-sponsored research.

Edinburgh University group are considering an investigation of noise hazards in the dairy and brewing industries and also oil hazards.

Enfield (Middlesex Polytechnic) have organised meetings with outside speakers and run a bookstall. They also have a student on placement with BSSRS who can organise one day a week in the college.

Glasgow University are investigating military and business interests within the university and are helping to enforce the Health and Safety at Work Act and increase “safety awareness” among staff and students. They are also involved in alternative technology experiments at a farm near Aberfoyle.

Manchester University have three sub-groups at work on occupational health, environmental problems and an investigation of military and industrial interests in post-school educational establishments.

Notices
The next BSSRS Local Groups Meeting and National Committee Meeting will be held in Edinburgh on Saturday, 28th February. The agenda will be announced in the Internal Bulletin. Accommodation will be provided.
Ask anyone who was there what they thought of this year’s BSSRS AGM and their response will immediately tell you whether they’d attended an AGM before. The ‘nothing special’ reply indicates a first-timer: “everybody rambled on a bit . . . a few good points were made . . . nothing seemed to get followed up . . . I don’t know where it left us . . . nothing concrete came out of it”. The one thing that would have struck the first-timer as special—or rather strange—was the enthusiastic way that ‘seasoned’ AGMers talked about the weekend.

You certainly would have had to have attended at least one AGM before to realise what a radical departure this year’s was from the recent ritualistic proceedings. Given the experience of the last few years it was perhaps surprising that so many people did turn up. Still they had been primed by the draft of a new BSSRS policy statement and it was indeed this that catalysed the first directional discussion that BSSRS has explicitly embarked upon since its formative years.

Saturday morning was spent on the ‘formalities’ that normally occupy the whole of an AGM. Maurice Wilkins’ introductory Presidential remarks anticipated some of the points that were to re-occur during the afternoon’s discussions. Jim Croll, from the chair, gave an overview of the Society’s work over the past year. Andy Solandt, as General Secretary, gave more details of some aspects of the Society’s works and workings, concentrating on the organisational relationship between the office, the National Committee, the Society through­ collective, the local groups and the Society generally. Particularly, Andy welcomed the more active involvement of National Committee members in the political discussion and actual running of the Society throughout the year and looked forward to the new SJF collective taking over most of the magazine’s organisational work onto its own shoulders. Finally, whilst most of our thoughts were more directed towards lunch. Judith Walker, as treasurer, reported on the Society’s comparatively unhealthy financial state.

Back from lunch, the afternoon’s discussions started off by coming dangerously close to going off half-cock. Members who had been considering the general organisation of the Society were prematurely asked to report back. It soon became clear that this wasn’t a discussion that could take place outside of the considerations of the Society’s Aims and Policies which were scheduled to occupy the greater part of the afternoon. And so we abruptly moved onto these.

Introductory position papers were given by individual members of the Society. Within them and the discussions that followed there was a near unanimity on the need to develop a positive political perspective, but less agreement on exactly whom we should be addressing ourselves to. There was little support for the hope that we might address ourselves directly to the working class in general, although there was a general belief that the work that we are currently engaged in, for example on industrial health, suggests that we do have an important role to play in organising for the interests of the working class within the scientific strata. A frequently voiced opinion was that BSSRS could no longer primarily exist to radicalise scientific workers but to act as a focal point around which radicalised scientific workers could act.

The most important decision taken in the afternoon was to inaugurate a BSSRS internal discussion bulletin—initially aimed at continuing the debate started at the AGM, but ultimately to provide an ongoing forum for members to discuss organisational and political aspects of BSSRS that might be inappropriate for Science for People. (The first and subsequent issues of the bulletin will include the draft policy statement and the position papers that were presented verbally at the AGM.)

This decision was arrived at in the light of the opinion that the discussions started at the AGM were less important for what they might immediately, or even ultimately, produce in concrete terms, but for what they represented as an attempt to evolve a more positive political perspective for BSSRS. Thus, the suggestion that the policy statement might never appear in a finished version but exist as an ongoing and ever changing draft was treated in all seriousness.

Inevitably the perennial question of the name of the society was raised. When a straw poll, to ascertain who was in favour of changing the name, was moved, most of us put up our hands. When ‘Science for People’ was specifically suggested we all put them down again.

And so, when it came to the end of the day’s proceedings, there was a decidedly mixed feeling about its significance. In terms of well worked out and precisely practical suggestions for the development of the Society, very little actually came forward. And it was this that stood out predominantly for some. But for others there was a feeling that, for the first time in at least three or four years, BSSRS was embarking upon a serious and conscientious debate on the various roles for the Society that are implied by the alternative analyses that exist of science and its practice at the current stage of development of modern international monopoly capitalism.

Colin Thunhurst

Science and Socialism Discussions:
These meetings will emphasise the inter­ action between science and politics.
Venue is the Adams Arms, Conway
Street (near Warren Street station), on
alternate Tuesdays at 6.00pm.
 Provisional
 programme:—

February 24th Lessons of the Struggle
 at Lucas Aerospace
March 9th Reductionism in Bio­
ology
March 23rd Women and Science
April 6th Health and Safety in
 Industry
April 20th BSSRS—The Politics of
 Ideology
May 4th Ideology in Physics
May 18th Proletarianism of Scien­
tific Workers
June 1st Science, Ideology and
 the Real World

Further information from Dot Griffiths
(01-452 6240).

RADICAL SCIENCE JOURNAL

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Donations, subscriptions, enquiries and contributions should be sent to:
RADICAL SCIENCE JOURNAL, 9 Poland Street, London W1 V 3DG.
Dear Friends,

In the recent "women's collective issue" I found two astonishing statements:

"Penetrating insight", making a breakthrough" and "probing into the dark" are all things associated with the popular image of a successful scientist and are the essence of what we may call the 'masculine mode' of thinking from the linguistic link between sexual and intellectual creativity. The corresponding 'female mode' of thinking would include such things as the idea of learning from many different sources, and the ability to gradually develop a theory over a period of time while tolerating the absence of any immediate and tangible solution" (Power and sex in the laboratory).

"But women's contribution to science will not only be that of pointing out what we're doing wrong. If we watch carefully we may discover that the traditional ways we have of doing things are not the only ways nor are they necessarily the best ways. If we can restrain our scepticism and our patronage and avoid passing judgement and enforcing our standards, we might be able to draw from women a new and better way of doing things. The full participation of women in science on their own terms is essential if a new science is to emerge... a life-oriented science, a humane science" (Arye, Men against sexism).

Well, let me be sceptical and (according to Aryé) patronizing and let me pass judgement. These two sentences are silly and dangerous. What I should learn from them, is that women are different; not because of social determination since birth (or even before birth, someone will claim); not because of political discrimination; not because of the imprint left on men and women by the ideological prejudices of our society. No: they seem to carry, as women (so what is left? genetically?), a different world- vision, a different scale of values.

So there is a 'female mode': strange enough, it is all painted in beautiful colours—integration of ideas, graduality, patience, tolerance... And, even stranger, these are exactly the traditional, deeply rooted, ideological prejudices about girls and women: to be calm, to be patient, to smile (maternally) to those silly men who try to 'probe into the dark'... And then, Einstein set a standard in 'integrating ideas from many different sources'; did he use a 'female mode' in developing relativity? But most textbooks would claim that he made quite a 'breakthrough' with it! So, this labelling of 'modes' is a sterile solution.

After your clear-cut standing against genetical determination of IQ, all this is quite disappointing. It seems to me that it is rather trivial, and consistent with our political standing as radical scientists, to observe that the different 'modes' and 'roles' and, even more seriously and concretely, the really different expectations, hopes, motivations of man and woman in science, all derive from an ideologically imposed discrimination. Parents' expectations are different with regard to a girl or a boy; friends, comrades, teachers' behaviour is different; so at the end women and men turn out to be different in the scientific institutions. But this difference has been created by society, it is (or it has been) instrumental, functional to the society in which it has developed. The 'masculine mode' and the 'female mode' that obtain are ideologically determined and should be both destroyed by radical scientists.

Women have nothing to contribute to science (or to politics, for that) 'on their own terms': because their terms (which means their role, their image, their self-image) have been chosen for them by the ruling classes.

I hope you will publish this letter and open a debate which could help us in searching for and destroying that ideological slag that is still hidden inside us (at least that part that we can hope and reach, helas!).

Friendly yours,
Aryé Finkle

Dear Bruno,

I am sorry that you thought I was saying that female and male roles in society were genetically determined. Like you, I believe that sex roles are overwhelmingly determined by social, political, psychological and cultural factors.

But your assertion that women have nothing to contribute to science on their own terms "because their terms have been chosen for them by the ruling classes" is plain arrogance. If it were true that their terms had been chosen for them by the ruling classes then this would be true of all oppressed and revolutionary groups unless you believe either that your own particular group (male, white, middle class, radical left?) is immune or that women in particular are especially susceptible. Either way, I find this argument totally unacceptable.

My own experience of feminist ideology is that it is the very antithesis of ruling class ideology. Indeed, it is precisely women's participation in science (and in politics) on their own terms that is, I believe, essential if our common struggle is to move in the right direction.

Dear Bruno,

Lack of time and space prevented us from developing our ideas about sources of creativity in science, and presenting them in an unambiguous way, so we are not surprised that there has been some misunderstanding about what was written. However, we feel that you have been too impatient with our attempts to articulate complex areas of human thought.

Firstly, we made no value judgements about 'male' and 'female' modes of thinking—certainly the latter was not 'painted in beautiful colours' as compared particularly with the masculine mode of thinking. Secondly, we stressed that people should be able to freely draw upon both sources within them. Finally, we do not believe that these 'modes of thinking' (admittedly very inadequate phrase) are innate or genetically determined but are largely imposed by the expectations and structure of society.

Dear Bruno,

I feel that your self-declared scepticism and patronage and your rush to judgement are indeed preventing you from listening to and understanding what our sisters are saying! However, I will confine my remarks to your criticism of my own contribution in SIF 29.

Friendly yours,

Bruno Vitale
Istituto di Fisica Teorica
Mostra d'Oltremare, pad. nr. 19
80125 Napoli, Italy

Dear Bruno,

Women and Science Collective
Dear Colleagues,

In reply to the highly tendentious account of the WFSW Symposium on "The Role of Scientists and their Organisations in the Struggle for Disarmament", contained in your issue No 30, I should like to point out that the full official report of the Symposium, containing texts of all the main addresses and the conclusions of the Commissions—together with the Appeal to Scientists of the World, adopted with acclamation at the last session and never once referred to in the report of your correspondents—is now available. It forms a special joint issue, No 3/4, 1975, of *Scientific World*, organ of the WFSW, and can be obtained by writing to The Editor, *Scientific World*, 40 Goodge Street, London W1P 1FH (price 50p).

Among many other articles, it contains my opening address to the Symposium, which comes in for special attention in the report of your correspondent(s). Perhaps if readers care to read its actual text they will be able to form their own opinion of the objectivity and fairness in general of your published report of our Symposium.

Rather than using space replying to the inaccuracies, innuendoes, and gross distortions in which your report abounds, however, I should like to take up one of its positive aspects. Four members of the BSSRS who attended signed a statement calling for the strengthening of the organisation of the WFSW. They say "We must strengthen the links between the Federation and the scientists' movements which are springing up in response to these changes". May I, as the British physicist who is at present President of the WFSW, and a member of the BSSRS from its inception and a member of its National Committee for several years, cordially invite those who signed the statement to demonstrate their sincerity by working for the affiliation of the BSSRS to the WFSW?

I can assure you that the Federation is eager to welcome into its ranks organisations of scientists that accept the principles of its Charter and Constitution and that are sincerely concerned with the problems of science, its social relations and the application of science and technology to human betterment and fulfilment under the difficult conditions with which we are faced today.

In pursuit of these aims we should certainly welcome the new ideas, freshness of approach, and demonstration in practice of a social concern that have characterised many of the activities of the BSSRS.

Yours fraternally,

E H S Burhop

World Federation of Scientific Workers
40 Goodge Street
London W1P 1FH

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Dear SFP,

In response to Eric Burhop, we would want to distinguish between "strengthening the links between the Federation and the Scientists movements which are springing up" (minority Moscow document) and the formal affiliation of one organisation with another. It is an old point but one which needs restating. A social movement is not an organisation. BSSRS belongs to a living social movement which is engaged in developing a critique of the nature of science in contemporary capitalist and bureaucratic socialist society. As a movement it is therefore engaged in developing a new political practice rather than developing organisational forms with little or no substance.

What the movers of the minority document tried to do in Moscow was to point out, reasonably tactfully, that international meetings—in however magnificent a setting—are no substitute for political critique and political action. The WFSW's existence, other than as a purely paper entity, is at issue. It desperately needs to regenerate its political practice.

A couple of years ago we made a difficult and uneven start with the Science and Indochina Conference, jointly organised by BSSRS, WFSW, and the Indochina Solidarity Conference. We have to go on trying to build from the base in this way. There is nothing wrong with affiliations, it is just that they should be an expression of a common engagement in struggle, not some formalistic substitute for it. So in the positive spirit in which Eric Burhop rightly writes—yes let's get together—but to do something.

Hilary Rose
Charles Posner
Farooq Hussain
Joe Hanlon

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MOZAMBIQUE

The People's Republic of Mozambique is recruiting all categories of health, education and technical workers to participate in the reconstruction of the country following the victory over colonialism. For further details apply to Mozambique and Guine Information Centre, Top Floor, 12 Little Newport Street, London WC2H 7JJ. Tel: 01-734 9541.

Network for Alternative Technology and Technology Assessment (NATTA) is holding a two-day workshop at the Open University, Milton Keynes, April 3-4, 1976. This is aimed at bringing together groups involved with community technology developments, AT, grass roots industrial struggles, environmental lobbying, social audit, technology assessment, etc., to exchange experiences and compare strategies. Further information: 01-727 1628.
MAKING WORK MORE SATISFYING—TRI-PARTITE STEERING GROUP ON JOB SATISFACTION. H.M.S.O., 1975.

The Tripartite Steering Group consists of government, TUC and CBI representatives and it aims, in this short pamphlet, to examine the 'increasing opportunities for people to derive greater satisfaction for their jobs through changes in job design and work organisation'. The 'efficient' methods of production based on scientific management are no longer 'effective'. The raised expectations of the workforce and the increasing opportunities for people to derive greater satisfaction for their jobs through changes in job design (by which is meant use of job rotation, job enlargement, job enrichment, group work and autonomous working groups) so as to utilize the unused abilities of the workforce and make work more pleasant and rewarding.

This is, however, neither the real aim of the pamphlet nor a utopian programme of a paternalist body. While its concern is with job satisfaction this is only as a means to an end. That the group's real aim is to restore industrial harmony and retain areas of managerial control is shown in the following statement. The group suggests that the organisation that does not utilize its employees to the full is 'the poorer in two respects. First, a valuable asset is neglected. Second, frustration and resentment may be built up, which can result in poor motivation, non-co-operation, poor quality of work, absenteeism, high turnover or industrial unrest.' Similarly the pamphlet identifies 'problems' which indicate 'changes' are needed. These include low productivity, poor quality of output, difficulties over recruitment, high absenteeism or turnover, interruptions in production, low morale or poor timekeeping. Consequently the 'problems' which job redesign is to solve are managerial ones rather than the direct problems of workers themselves. The inherent contradiction between management and labour over job design is emphasised by the fact that work may be more rewarding and pleasant in a system of low productivity.

Whilst it may well be true that some cases of job redesign do result in more 'interesting' and 'responsible' jobs the debit side for the worker must be stressed. Such changes are initiated by management in their own interests. As the pamphlet puts it 'most of the organisations that have carried through change programmes have said they considered the time, effort and money spent to be worthwhile'. And so they should; the six examples of job redesign given in the pamphlet stress the consequent improved productivity and industrial relations. From the workers' point of view management are still well and truly in control. Indeed autonomous work groups often lead to workers supervising themselves in achievement of managerial ends, job rotation increases managerial control over deployment of labour and, like job enlargement, can often lead to cuts in the workforce. As such, management regain areas of control (where say restrictive practices previously existed) by delegating responsibility to the workforce. In this important sense job design (as described here) and workers' control are opposed movements, the latter aiming to control all aspects of industry in the workers' interests.

The fact that the Steering Group takes capitalist social relations of production as given means that their analysis of work organisation is limited. The constraint that capitalism itself puts on 'available' methods of organising work is not considered. Yet a system of private ownership, of production for profit, and of competition, can of necessity only use certain methods. Hence the continuous reign of scientific management and the necessity for techniques to continually improve productivity. Such a system cannot, if it is to survive, consider workers' interests as anything other than secondary. All this is not to say that job redesign should be totally opposed. Rather, we should be aware of the dangers in accepting such changes and realise that there is no substitute for workers' control within a socialist system.

Julian Cohen

WOMAN IN SCIENCE, by H J Mozans, MIT Press.

Still we hear the baying in its subtle and unsuible forms, 'where are the female Aristotles, Newtons, Beethovens?'; 'history shows that women have not the intellectual capacity of men and are better suited to raising children and keeping an orderly house'. Men of mathematics, men of letters, men's achievements described, while their wives and mistresses played upon the lute, learnt passable French, composed epigrams in Victorian drawing rooms and were praised for their beauty and tapestry-weaving.

However, not so, for a book written in 1913 by a man describes many women, from Ancient Greece up to the time the book was written, who made great contributions to science. Moving through a wide range of scientific areas he describes how women succeeded in pursuing aspects of physics, biology, astronomy, through to the production of patents for locomotive wheels, railway cars, safety apparatus and life rafts, to name but a few of women's inventions.

Part of the book is devoted to refuting what had been popular scientific theories, produced to demonstrate women's innate intellectual inferiority. Today they seem very quaint; 'the tortuous foldings of the female brain it is asserted are less ample, less pronounced, less beautiful than those of a man's brain'. While today scientists give much time to the demonstration and discussion of biological sex differences, such scientific enquiry often obscures the ideological bases of value judgements which are derived from scientific rationalisations. Refuting such theories then, is to accept that they have a scientific basis, and I feel that Mozans falls into a trap by taking them seriously, even though he does reduce them to the absurd.

What is important, and what he concentrates on, is to show, through describing individual women and their work, how women's access to education and expression of their ability has been affected by social and political circumstance. In some situations, women have been able to take part openly in intellectual activity—the heroae (companions) of Athens of whom Aspasia, friend of Pericles, was one, often held influential positions in intellectual and political life which was denied to Athenian wives. In the Middle Ages, the convents of Western Europe were centres for women's education and
the pursuit of learning. In Italy during the Renaissance women became artists, sculptors, poets, scholars. Among wealthy Italian families the education of women was encouraged and it was not unusual for women to hold prestigious positions in Italian universities. In the University of Bologna, Clothilde Tambroni held the chair of Greek and Literature, and Laura Bassi held the chair of physics, whilst she succeeded in also raising a family of twelve children.

However, most women were not so fortunate and had to struggle against ridicule and institutionalised restraint, frequently forcing them to conceal their sex, play a supportive role to intellectual husbands and pursue their activities outside educational and scientific institutions which denied them access. Later came the struggle of women to enter the professions to establish a career, given impetus by the women’s movement at the turn of the century. Political rights and equal opportunity which, during some periods of history women had enjoyed in some form, had never before been so universally demanded and events at the beginning of the twentieth century obviously gave Mozans grounds for hope, for in his final chapter he predicts few obstacles to women’s further progress and establishment of political and intellectual equality. However, women are still struggling for self-determination and the example of many women he describes reveals one of the important factors which impede women’s emancipation: that of lower expectations, and the ease with which women can be socially and politically manipulated, which in the twentieth century is important for capitalism.

Criticisms of the book: it concentrates on the western world; his attitude to women at times reveals a teeth-gritting adulation—that women can be intellectual, good mothers and beautiful receives his highest accolade. His line, to plagiarise Women’s Report is acceptable to a feminist but there is no class analysis worth speaking of. Historically those women who have ‘made it in a man’s world’ have come from the upper classes. Today’s women scientists are still very much in the minority and rarely come from working class homes. Mozans has shown that historically women have made an important contribution to science—but this does not undermine the fact that to achieve this has meant a struggle both for woman as an individual and for woman as a sex.

Woman in Science is a fine book, and well worth reading.

Rowena Clayton

FREE FALL IS INNOCENT OK!

Free Fall Publications are being sued by the printer of their one and only book, Leaving the Twentieth Century—The Incomplete Work of the Situationist International. Partly because sales have come almost to a halt, and partly because of an insanely idealist-optimist pricing policy (£0.80 for 168pp illustrated, well I ask you), we find ourselves owing £97.

We aren’t a publishing house, just four unfortunate, broke, utopian freaks; and we’d like to ask everyone who’s been glad to read the book if they can help us cope with the situation. We have plenty of books left, oh yes indeed; would you like to buy some to give/sell to your friends? Can you place an order in your local library/shop? Can you, even, give us a loan?

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Love,

Four Free Fallers

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LIVING ON THE SUN By Godfrey Boyle. Calder and Boyars paperback in the 'Ideas in Progress' series. £1.95. 127pp.

This is a short book, like others in this series, overpriced for the 127pp which includes the cover and several blank pages. It is subtitled 'Harnessing Renewable Energy for an Equitable Society', and covers the energy aspects of alternative technology. It sets out to give practical changes to the exploitative technological society that we have. It succeeds very well in summarising the types of technology that are being developed to use renewable, sun-derived energy sources, but fails to put these in a coherent social and political perspective.

In the introduction we are told: 'This is a book...about political economy, as Kropotkin defined it...which leads to looking forward to a radically new social, political and economic structure.' This Utopian view is developed a little as the book progresses, and warily avoids the problem of monopoly capitalist control of energy, instead placing its emphasis on the techniques that may form the basis of a technology for a liberated society. On p.14 Tolstoy is quoted: 'If the arrangement of society is bad (as ours is), and if a small number of people have power over the majority and oppress it, every victory over Nature will inevitably, serve only to increase that power and that oppression.' Quite. As Dickson in 'Alternative Technology' in 1974: 'To argue that technological change is per se able to bring about a more desirable form of society is technological determinism carried to utopian extremes.' This book sometimes seems to argue in this way. Some energy resources are 'eminently suitable for exploitation by ruling oligarchies'. But the ruling class is quite capable of co-opting any new technology into an exploitative economic system. A capitalist society will not be an 'ecologically-sane' one, and the implications of this are ignored here.

The field of analysis for the greater part of the book is domestic energy consumption. Possibilities for reducing this by better insulation, etc., are considered, followed by reviews of the types of renewable energy that could meet this reduced demand—solar power stored in plants, direct solar power, wind power, and water power.' These are seen as useful for 'individuals or small communities'. The emphasis is on showing that technically consumption can be cut. It performs a useful function but needs consideration of social and political effects to lead to a basis for large-scale adoption.

The plant power chapter shows the possibility of using small-scale recycling agro-ecology with methane fuel production. It concentrates on demonstrated and experimental systems, and at times seems to contradict the earlier canvassed 'low-technology' aspects of sun power, as with: '10% efficiency of photosynthesis...is within reach...breeding, genetic manipulation and ecological selection' (p.29) which is a recipe for a biological high technology amenable to control by the genetic engineers and the ruling class. As with the discussion on energy consumption the question of how? for the new sun-based technology is answered in a narrow technical sense. How these potentially less alienating technologies could be introduced on a large scale in the face of increasing capitalisation and social control by the agri-business is avoided. This type of question must be faced if the problem presented is to be overcome: the problem of how to generate enough energy without exhausting or poisoning the earth, and the problem of how to feed our population in a manner that is simultaneously more productive and more ecologically-sane than the proposals of the fertilizer and pesticide companies, the monocultural maniacs and the 'green revolutionaries'. As with Ivan Illich's book in this 'Ideas in Progress' series, some of the most important aspects of the how? of social change are ignored. The Utopian project of the development of a technology for a new society is presented; the necessary changing of present society is ignored.

The direct use of solar heat pumps are dealt with in fine detail, the emphasis being on working systems; much of this will be familiar to regular readers of Undercurrents magazine (of which Godfrey Boyle is editor). The windmill chapter is firmly based in consumer economics. At present windmills are shown more expensive than mains electricity; an illustrated guide to some commercial windmills follows. The more promising technologies of vertical axis aerogenerators are then discussed: Savonius and Darrieus machines. The conclusion is made, may 'pay for themselves'. Water power is rightly described as grossly underused in Britain. Waterwheels and turbines are approvingly discussed, power estimates are made, and a system that would pay for itself in eight years described. Again social/political problems are ignored: where can one get a stream or river to use?—why aren't more waterwheels in operation?—who controls this type of energy resource?

After the starkly technical, but fascinating, chapters that form the bulk of the book, a chapter entitled 'Integration' seemed promising. It says that for different uses, different sun-derived energy sources are more efficient. If we haven't been reading Undercurrents for the last year or two the book up to this point provides a concise summary of the 'ecologically-sane' technologies that have been described there.

Only in the last chapter do we come to non-domestic energy use, following the useful statistic that 'only about 25% of all the energy consumed in [this] country as a whole is domestic energy use. This again reveals the limited outlook on energy here: for the creation of the 'equitable society' of the subtitle the patterns and forms of industrial energy use must be considered.

A further problem is that the sun power technologies described earlier are not evaluated in terms of the total energy cost of producing and using the system, e.g. an aluminium-based solar roof, but only in terms of the immediate economic consequence of using the system (will it pay for itself?). A form of energy accounting is now, however, applied rightly to cars as private transport, and to show the possible overall energy savings in home construction by use of low-energy materials. Following this the book looks at a 'postulated decentralised society', and shows how its energy use, especially in transport, would be far less than in Britain at present; there is no overt discussion of how this society could be achieved, and I am left with the feeling that it is all expected to happen if we start using the technologies described here. As a slight aside—the book considers only Britain, lacking appreciation of the impact of this type of change on the rest of the world, chauninstically assuming it will follow us into Utopia. Wind, geothermal and tidal power are finally advocated for industrial use.

The book concludes with a 'back to the sun' appeal, justly criticising the 'juvenile technocratic fantasies of the space age', while failing to criticise effectively the economic system that propagates them, and, through a world-wide network of monopoly capital control of energy, ensures that we will never reach an 'ecologically-sane' society. The final approving quotation is from G.K Chesterton: 'We must go back to freedom or forward to slavery...It is difficult to see what freedom is referred to. The wage slavery of the 19th century? Serfdom in the middle ages? The slavery of Greece and Rome? We can only look forward to freedom in a different society that must be struggled for now in the citadels of power: modern factories and offices. Utopian opting out will not do. I hope the 'Ideas in Progress' here go on to this social and political dimension of Alternative Technology, to challenge the system that seems set to co-opt it.'

Gavin Browning
Inspectors throughout the country took part in a special exercise in which 361 factories known to be using mineral oils were visited . . . . The general indications of the exercise are that although employers are generally aware of the hazards there is considerably less awareness among employees" (HM Chief Inspector of Factories Annual Report for 1974).

To rectify this situation BSSRS has just produced the second in its series on industrial health issues on the health hazards of oil and how to fight them; a booklet of 93 pages.

1-10 million people are exposed to oil daily. The known health hazards of oil include: skin cancer (especially of the scrotum); lung and stomach cancer; general lung damage (pneumonia and fibrosis) and skin inflammation (dermatitis). All these are in addition to the more well known health hazards of oil: accidents and increased fire risks. The pamphlet covers all of these in some detail.

It takes a critical look at working people's supposed protectors: the oil industry, government and trade unions. The government's 'safe' level for oil mist is found to be inadequate. Full details and criticism is given of an available non-mist oil, improved machinery and extraction equipment. Suggestions for action and union demands are offered.

Further reading and contacts for help are given. Appendices cover the history of scrotal cancer, the oil industry and the composition of oil.

BSSRS members may obtain ONE copy of the pamphlet at the reduced rate of 50p (plus p&p 20p). Trade unionists can obtain TEN or more copies at the reduced rate of 50p per copy (post free). The Institutional rate is £1.50 (plus 20p p&p).
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