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INTELLECTUAL SUPPRESSION

Freedoms are gained and protected by continual struggle, not by resting on formal guarantees or a hope that things won't get worse. This is why it is important to defend the freedom to dissent even of those we don't agree with and those we may not like personally. Opposition to suppression is part of that struggle. It is important to persevere even though some dissidents, in the face of suppression, decide to acquiesce and conform rather than persist in dissent.

Editor

BRIAN MARTIN

PSA

An Interdisciplinary-International Quarterly of Concerned Philosophers for Social Action

PHILOSOPHY and SOCIAL ACTION

An Interdisciplinary-International Quarterly of Concerned Philosophers for Social Action

STATEMENT OF PURPOSE :

Issues of social concern often have an important philosophical dimension and yet most often they are ignored by philosophers. PHILOSOPHY and SOCIAL ACTION is founded in the belief that a philosophical examination of these can contribute to their clarification and lead to right action. It will encourage philosophical discussion of substantive socio-economic, scientific, political and legal problems as well as discussion of their theoretical and practical aspects.

The editorial policy also welcomes interdisciplinary discussion of socio-political issues and problems and invites philosophically inclined writers from various disciplines, including physics, economics, social sciences, literature and linguistics to contribute and thereby bring their distinctive studies and methods to bear upon issues and problems that concern humankind in general and the peoples of India and the Third World nations in particular.

*These have been imprisoned for more than 5 years by the governments of their respective states for their dissenting views.

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The Issue of Intellectual Suppression

BRIAN MARTIN

In the Western liberal democracies, the dominant ideology is that *intellectual suppression* happens only elsewhere. Intellectual freedom is hailed as something guaranteed and protected in the 'free world'.

The study of *intellectual suppression* challenges the claim that things are fundamentally different in liberal democracies. Certainly, there is more opportunity to express unpopular opinions in such societies than in milltary or state socialist regimes. But at the same time suppression is an important factor in the dynamics of capitalist democracy.

It was in 1979 that I first became sensitised to the pattern of suppression of intellectual dissent going on around me. At the time I was working at the Australian National University in Canberra. Since going there in 1976 I had regular contact with members of the Human Sciences Program, which offered innovative teaching in the area of environmental studies. The Program had been under attack since its early days from traditionally minded figures at the university. When one of the staff members in the Human Sciences Program, Jeremy Evans, came up for tenure, he was rejected. Evans at the time had an average publication record and was widely acknowledged as an inspiring teacher. It seemed to me, and to many others, that Evans' tenure was being blocked because he was associated with a critical environmental programme.

Earlier, I had read of the case of Peter Springell, a scientist who got into trouble with his superiors because of his research on environmental issues, and who eventually left his job with the Commenwealth Scientific and Industrial Research Organization. I had made contact with Clyde Manwell, Professor of Zoology at the University of Adelaide, who had spoken out critically about pesticide spraying against fruit fly, an act which led to an attempt to sack him from his post. Another, earlier, case at the Australian National University came to light at the time : John Hookey, lecturer in law and the teacher of environmental and resources law, had been told he would not receive tenure. The case was very similar to that of Jeremy Evans.

There seemed to be a pattern when a scientist or academic spoke out or did teaching or research which threatened vested interests—especially in industry or government, or their supporters in the scientific or academic

communities—then that scientist or academic risked coming under attack. The attack could be in the form of denial of tenure, blocking of research funding, denial of promotion, blocking of publications, harassment, smear campaigns or sacking.

In several senses, there is nothing new in suppression. In state socialist countries and under military dictatorships, suppression of intellectual dissent is routine and pervasive. Furthermore, intellectual suppression in many such countries is only one aspect of a wider repression of any opposition to the government. Opponents and potential opponents of the ruling powers may suffer imprisonment, torture and death.[1]

There was a military coup in Turkey in 1980. The military government has repressed dissent coming from any quarter. One prime target has been the universities. A large number of academics have been dismissed from their jobs, some have been imprisoned and some murdered. Academics who have been dismissed under the State of Siege are banned from any employment by the government. New legislation has been brought in to control the universities, providing for direct administrative control, teaching of state doctrines and denial of civil liberties to academics. Students have also come under attack by the regime. It is clear that critical ideas are threatening to the military rulers and that they are willing to take extreme measures to keep the universities under control.[1a]

In May 1987 there was a military coup in Fiji. As the new regime cemented its power in the following months, intellectual freedom was an early casualty. Newspapers and radio stations were closed, censored or taken over. Academics at the University of the South Pacific in Suva have been warned not to oppose the military government. Some staff have been detained by police briefly and at least one has been badly beaten; many are hoping to leave Fiji. William Sutherland, a political scientist from the University, is in exile and is forbidden re-entry to the country.

After further inquiry and investigation, I wrote my first paper on suppression, documenting cases in the environmental area[2]. As a result of this, I came in contact with more and more cases of suppression. Partly this was by being sensitised to the processes involved. When I read newspapers, magazines or books, passages indicating suppression suddenly grabbed my attention where previously I might have passed over them.

On the other hand, because I had written about suppression, people sometimes contacted me with information about a case they were involved in, or which they knew about. Through numerous conversations and much correspondence, my files on suppression have grown relentlessly.

During the editing of this issue of *Philosophy and Social Action*, I decided to write down some of the cases that have come to my attention over the past year. The number and variety of cases is considerable. I list a selection here—only ones for which there is published documentation—not as a systematic account but rather to indicate both the diversity of cases and the regular patterns involved.

In 1985 a Peace Research Centre was established at the Australian National University, funded by the Australian government. Since its inception, the Centre has been attacked by right-wing opponents of peace research and peace studies. In particular, the Head of the Centre, Andrew Mack has been accused of spreading 'disinformation' and serving the interests of the Soviet Union. Mack has responded capably to the attacks. I had assumed that the inaccuracies and polemical nature of the attacks would discredit the accusers in the eyes of most reasonable people. But Andrew Mack believes that the Centre's future may be at stake. Many politicians would like to get rid of the Centre, and the attacks, even if refuted, may aid in this.

John Sinclair is a well-known conservationist in Australia. In the 1970s he led the successful struggle to save Fraser Island, off the coast of Queensland, from sand mining. Although the mining was supported by the Queensland government, the federal government intervened to prevent it. The Premier of Queensland, Sir Joh Bjelke-Petersen, publicly criticised Sinclair's job performance in the Queensland Education Department. Sinclair sued for defamation, won, and then lost on appeal. Costs were awarded against him, including $30,000 costs for Sir Joh. Sir Joh is seeking to declare Sinclair bankrupt to collect the money. This case illustrates the imbalance of power in social struggles. The government of Queensland indemnified Sir Joh against any damages in the defamation case ; Sinclair had no such protection.[4]

Australian subscribers to *The New Internationalist* did not receive the June 1987 issue. The issue deals with, among other things, the Unilever Corporation. The magazine received legal advice that the issue should not be published in Australia.[5] Defamation laws are very strict in Australia. The effect of these laws is that those with power and money—politicians and corporations in particular—are able to inhibit criticisms.[6]

Recently I attended a conference called Ecopolitics II, in Hobart, Tasmania. The conference was organised through the Tasmanian University Research Company (TURC). It turned out that the two managers of the TURC, Michael Lynch and Cassandra Pybus, had just been sacked from their jobs. Lynch and Pybus believed that they had been discriminated against because of their political views, namely their concern about environmental issues rather than the narrower interests of industry. After the case received attention in the press and state parliament, an agreement was reached: the dismissal was withdrawn, and Lynch and Pybus resigned.[7]

In December 1986 I visited the United States. No sooner had I arrived than I came across the story of George Shirley, a teacher at Alisal High School in the Los Angeles region. In the space of a few years, Shirley performed a near miracle in persuading and helping an unprecedented number of Alisal graduates to enter higher education, including many prestigious universities—a miracle because 85% of Alisal's students are from minority groups, mainly Latino, which are normally written off as incapable of top academic performance. Although his efforts to help disadvantaged

groups generated enormous enthusiasm among many students and parents, they also seem to have created enemies at the school. Shirley was not rehired for the 1986-1987 school year.[8]

In the 1960s and 1970s, during the upsurge of social activism in the United States, especially in response to the Vietnam war, the Federal Bureau of Investigation turned its attention to many protest groups, defining legal social protest as a form of subversion.[9] In the mid-1970s, public exposure of the crimes of the intelligence agencies stimulated government moves to curtail such illegal monitoring of dissent. But with the Reagan administration in the 1980s, government involvement in monitoring and harassing dissenting groups again entered the agenda. There has been a pattern of "break-ins, infiltration, spying, tax audits, mail tamperings, customs difficulties and general harassment of groups and individuals opposed to Reagan administration policy in Central America."[10]

One of the government agencies which harasses dissident groups is the United States Internal Revenue Service (IRS), which can subject target individuals and organisations to exceptional scrutiny.[11]

The usual pattern of suppression is against those who are critics of the established order, and in Western societies this usually means that few who are suppressed are 'right-wing' in the conventional sense. (Of course, in communist countries open supporters of capitalism are routinely suppressed). But there are some cases of suppression of those on the right, and some of the best documented cases involve the IRS.

George Hansen of Idaho, for many years a member of the US House of Representatives, has a flawless record as a supporter of right-wing causes. But his activism against the IRS got him into trouble.

Hansen and the National Coalition of IRS Whistleblowers have documented many cases in which the IRS has used heavy-handed tactics to collect taxes, including armed invasions of homes to confiscate property, the selective auditing of critics of the IRS, heavy pressure on IRS employees to break the law in collecting taxes, and the targeting of whole neighbourhoods (for example in the wake of natural disaster) to demonstrate the power of the IRS. Hansen made a major effort in Congress to put controls on this sort of behaviour by the IRS. For his efforts, Hansen was himself the subject of highly damaging IRS scrutiny.

Hansen was not the first victim. In the 1960s, Senator Edward Long of Missouri led a congressional inquiry into the IRs. Just before the 1968 election, Long's tax returns were leaked to the media, casting a blight on his campaign. Long lost the election ; a later investigation found nothing wrong with his financial records. A similar thing happened to IRS critic Senator Joseph Montoya of New Mexico, who lost office after the IRS leaked false information about his tax returns.[12]

The point is that the Internal Revenue Service is a very powerful bureaucracy. Although it has ties to the government and other parts of the 'establishment', and hence is especially likely to be used to harass left-wing

critics of government policy, powerful bureaucrats within the IRS also have a vested interest in opposing any scrutiny of its operations; whether from the left or the right.

Najwa Makhoul is a Palestinian and Israeli citizen. After receiving a Ph.D. in 1978 from the Massachusetts Institute of Technology in urban and regional studies, she returned to Israel where she planned to establish an interdisciplinary scientific journal, in Arabic. The Israeli authorities refused permission for its publication for security reasons (which they have not revealed) even though, as an Arab publication, each issue would have been subject to Israeli censorship.[13] Makhoul's case illustrates well the constraints imposed on those who are seen as capable and willing to intellectually challenge the ruling powers.

Outside of Israel, the greatest support for the policies of the Israeli government is found in the United States. Criticising Israel can be risky. In Los Angeles, a group of Palestinians, including many long-term US residents, whose politics were well within the mainstream, were arrested and accused of violence. Their only 'crime' was distributing publications supporting the Palestinian cause. The method of the arrests is only explicable in terms of suppression of Arab thought.[14]

Right-wing critics of Israel and Zionism have also complained of suppression. The Liberty Lobby is a group advocating a populist programme of "America-first nationalism, armed neutrality, aloofness from involvement or interference in the affairs of other countries, and freedom of the people from repression and exploitation by governmental and big-bank financial power". The Liberty Lobby in the 1970s began providing a daily radio programme to stations around the country. A few segments on the programme criticised Israel and Zionism. The Anti-Defamation League of B'ani B'rith launched a campaign to get the Liberty Lobby off the air, which involved direct protests to radio stations, leaflets, articles and orchestration of complaints from listeners. The campaign was largely successful in creating a perception of the Lobby as anti-Semitic (rather than anti-Zionist which it openly is).[15]

Another type of case I've read a lot about recently is suppression of feminists. An important article here tells about the experiences of lesbian academics who were sacked from their jobs.[16] This is a form of heterosexual discrimination, but it is also intellectual suppression because the lesbians who are sacked are almost always those who are open about their sexuality. The message is that it's all right to be different, just don't tell anyone about it. As is usual in academic suppression, in every case 'legitimate' reasons were used to justify the dismissals. It was only by pooling their experiences that the pattern of discrimination became obvious to the victims.

Another target to attacks in academia is women's studies. There are histories of harassment and cutbacks documented at a number of universities.[17] Women's studies, especially where an active feminist stance is taken, is a major threat to much work in the orthodox disciplines, which is dominated both by men and by male perspectives.

Related to this is one of the most publicised cases of suppression in recent years, the suspension of Wendy Savage from her practice as an obstretician and gynaecologist at the London Hospital in April 1985. The official reason was that she was a danger to her patients, and five particular births were cited. The real reason, in the eyes of many, was Savage's approach of putting mothers in a greater decision-making role when giving birth. The suspension led to enormous public outcry, including major demonstrations. A lengthy inquiry was held, which vindicated Savage. She returned to work in October 1986.[18]

The Savage case is a well-documented history, exceptional both in the public nature of the struggle and in the resounding victory for Savage. Many other threats to intellectual suppression are less spectacular and more difficult to mobilise against. Often these threats take the form of policies.

For example, the US government regularly censors writings by federal employees and subjects many of them to lie-detector tests.[19] The trends in the US are long familiar in West Germany, where the official policy of *berufsverbot* denies government jobs to members of left-wing groups and to many social activists, and where protesters are often subjected to police violence and excessive fines or imprisonment. Furthermore, the 'technology of political control', which includes riot-control weapons used by police, sophisticated surveillance equipment, computerised data-bases on individuals and groups, and monitoring of cars and bank deposits, is increasing the capability of police to inhibit and repress dissent.[20]

There are also whole areas where suppression is routine but seldom comes to light. The pharmaceutical industry is notorious—to those who study it—for corrupt practices, and suppression of those who challenge these practices is frequent.[21] The pharmaceutical industry is only one industry of many for corruption and suppression.[22] The tobacco industry, in its rearguard battle to defend cigarette sales, has frequently attempted to suppress criticism.[23]

In a rather different category are the Freemasons, a secret society whose members may make reprisals against dissidents, especially those who expose corruption in the order.[24]

Australian journalist Wilfred Burchett was the first Westerner to report the effect of radioactivity at Hiroshima. For over forty years he covered a series of the world's 'hot spots'. His 'crime', in the eyes of Australian government bureaucrats, was to present the other side, including the Korean and Vietnamese wars from North Korea and North Vietnam. Although widely acclaimed throughout the world for his work, for twenty years 'conservative Australian governments sought to obstruct and discredit Wilfred Burchett by every means available to them, from quite lawless denial of his rights as an Australian citizen to pressure on Australian newspapers not to publish his material'.[25] Through the refusal to provide him with a passport, intellectual suppression in Burchett's case took the form of excluding him from Australian society completely.

The above examples of suppression illustrate the immense diversity involved. Are there some general features or patterns in suppression'? The following are some points that I believe are important.

Few cases of suppression are publicised. The instigators almost always justify their actions on 'legitimate' grounds and do not trumpet their behaviour to the world. The victims often blame themselves or avoid publicity which may hurt their future career. Furthermore, probably the largest number of cases involve actions such as denial of publication or denial of appointment, where it is extremely hard to prove that suppression has occurred. The publicised cases are the tip of the iceberg in terms of numbers.

The most serious suppression is usually less publicised. The publicised cases are unrepresentative of the most common and, arguably, the most serious and effective suppression. Publicity is more frequent in countries where elite control over dissent is weaker. Dissidents in universities, for example, are more able to publicise suppression because of the rhetoric of free inquiry than are dissidents in government or industry. Where suppression is sufficiently pervasive, even word of the existence of suppression is suppressed.

More fundamental is what can be called 'structural suppression': institutional arrangements which allow no opportunity for effective dissent. The poor, the illiterate, those embued with the dominant ideology and those conforming because of their dependence on precarious sources of income have little opportunity or inclination to engage in the luxury of 'intellectual dissent'.

Suppression is a feature of power struggles. Suppression does not fit easily into the usual explanatory categories of social science. The mainstream approaches of pluralism and functionalism do not talk about suppression : it is an aberration from the proper processes of liberal democratic society.

Marxian categories of ownership of the means of production and hegemony focus on structures, and do not extend easily to incorporate the processes of suppression which often depend on the capricious actions of individuals. Furthermore, suppression is not always in the service of capital : it is most pervasive in state socialist countries as well as military dictatorships and is also a regular feature of government bureaucracies, political parties (right and left) and trade unions. In each of these areas, news of suppression can be an embarrassment to Marxian scholars.

Arguably, the social science disciplines themselves are built on a whole history of suppression of dissident views.[26] Those theories and scholars who have thrived in this process are unlikely to focus on suppression, especially when the suppression is carried out by colleagues and administrators on whose good graces they depend. The scholarly neglect of suppression is similar to the scholarly neglect of state terrorism and repression.[27]

Suppression is a penalty for dissent. Just as important are prizes for cooperation. While critics of pesticides frequently suffer suppression, those

who support pesticides often reap grants, consultancies and promotions.[28] If the carrots for cooperation are potent enough, the stick of suppression may only be needed rarely. To study suppression, it is important to put it in the context of the wider processes of social control.

The perpetrators of suppression are seldom penalised. Because suppression, virtually by definition, involves the exercise of power by a strong group against a weak opponent, there is little opportunity for redress. Although Wendy Savage was vindicated by a major enquiry, it was she who was suspended and forced to struggle for many months to regain the status quo. Her attackers suffered no formal penalty.

It is important to oppose suppression. Dissent from dominant views is a potent challenge to the powers that be. This is apparent from the paranoia about dissent in repressive regimes. Why, one might ask, would a government with a monopoly over repressive violence be worried about a few critics armed only with words ? Such governments are worried, because their rule depends to a great extent on support or acquiescence from the mass of the population. Dissidents, by exposing the nakedness of the emperor and by showing that dissent is possible, can inspire opposition.

Freedoms are gained and protected by continual struggle, not by resting on formal guarantees or a hope that things won't get worse. This is why it is important to defend the freedom to dissent even of those we don't agree with and those we may not like personally. Opposition to suppression is part of that struggle. It is important to persevere even though some dissidents, in the face of suppression, decide to acquiesce and conform rather than persist in dissent.[29]

The articles in this issue deal with the above points and others. Avi Adnavourin gives an insight into internal academic politics in his account of the sacking of R.M. Frumkin. Frumkin himself eloquently tells of the immense psychological cost of suppression for the victims, something that is hard to appreciate for those who have not been through it.

The remaining articles deal with some of the wider ramifications of suppression. Cedric Pugh describes suppression of dissent in housing policy at an individual level and in terms of its wider impact. Fumihiko Satofuka draws a picture of the social structure and history of Japanese society which explains why it is so difficult for dissident views to be expressed. Finally, C.M. Ann Baker and Clyde Manwell in two articles describe the interest groups involved in agriculture and their role in two major areas for suppression, and document the harmful consequences of this suppression.

Many of those involved with *Philosophy and Social Action* have direct experience with suppression. The founder-editor, Dhirendra Sharma, was improperly transferred from his post at Jawaharlal Nehru University, apparently because of his criticisms of the nuclear establishment in India.[30]

But Sharma is no stranger to controversy. Commenting on his transfer, Noam Chomsky wrote, in 1984, that he had known Sharma for 20 years and that he was "a courageous and effective participant in the American anti-war

movement, and has since done important and highly valued academic work in the area of science policy while continuing with his engagement in defence of civil and human rights in India and elsewhere in the world. His active opposition to the Indo-China war apparently cost him a U.S. government research fellowship in the year 1969-70."[31]

Two members of the editorial advisory board, Hassan Arif (Pakistan) and Maina-wa-Kinyatti (Kenya) were dismissed from their jobs and have been imprisoned for several years because of their views. Two other members 'Africa Associates', Mahmood Mamdani (Uganda) and Ernest Wamba-dia-Wamba (presently in Tanzania) have also suffered intellectual suppression. In 1985, Mamdani was deprived of his Ugandan citizenship for delivering a lecture critical of social and economic system by the "democratic" government of Dr. Milton Obote. His citizenship has now been restored after the overthrow of the Obote government. Wamba-dia-Wamba, a noted authority on the Marxian political history, has suffered imprisonment in his home country Zaire. He is now in exile, teaching at Dar-es-Salaam, Tanzania.[32] Therefore it is most appropriate that *Philosophy and Social Action* publish this special issue on intellectual suppression. □

Acknowledgements. Many individuals have provided me with documentation and insight into suppression cases, only some of which are mentioned here. Ben Kiernan and Pam Scott offered valuable comments on a first draft.

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THE WAYS OF SUPPRESSION

Intellectual suppression mostly occurs with due legal process within a formal institutuional system. Bertrand Russell described his own case ;

> I was invited by Trinity College, Cambridge, to become a lecturer, but not a Fellow. The difference is not pecuniary ; it is that a Fellow has a voice in the government of the College, and cannot be dispossessed during the term of his Fellowship except for grave immorality. The reason for not offering me a Fellowship was that the clerical party did not wish to add to the anti-clerical vote. The result was that they were able to dismiss me in 1916, when they disliked my views on the war. (I should add that they reappoint me later, when war passions had begun to cool.) If I had been dependent on my lecturship, I should have starved.
>
> (*From* : "*Free Thought*", *in* SCEPTICAL ESSAYS, *Unwin Books, 1962 ed. p, 104*)

CHARLES S. PEIRCE

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Philosophy and Social Action, 14 (1) 1988

Academic Assassination and a Three-University Plagiarism Coverup : The Case of Robert M. Frumkin

AVI ADNAVOURIN

In late 1974, Dr. Robert M. Frumkin, distinguished behavioral science scholar and tenured professor at Kent State University in Ohio, USA, discovered that two of his departmental colleagues were unequivocally guilty of plagiarizing a graduate student's masters thesis. He then made the 'error' of blowing the whistle on them.[1] When these men, Dr. Lawrence Litwack and Robert Sakata, both also tenured professors at Kent State at that time, heard about what Frumkin had done, they organized, during the 1974 Christmas vacation, an academic assassination plot. Since almost every member of the department had at one time felt the sting of gadfly Frumkin it was relatively easy for Litwack and Sakata to get all the full-time professors in the department to compile a 95-page book of charges against him which would serve as the rationale for his dismissal. In compiling this indictment, Frumkin's colleagues set in motion the academic machinery which insured that the charges made against him would in fact leadto his dismissal.

The Essential Facts on the Plagiarism

Drs. Litwack and Sakata, although they were not particularly research oriented, desired full membership on the Graduate Faculty of the University. In order to achieve that status and maintain it, one had to publish a minimal number of research papers within every five-year period of employment. Both men, in 1971, did have the requisite research papers published to maintain (Litwack) or establish (Sakata) their full membership status on the Graduate Faculty. They wanted that full membership because it meant that they could then direct student doctoral dissertations, get pay raises without a hassle, and, in the case of Sakata, get a promotion from assistant to associate professor. In apparent desperation they decided to take the unethical shortcut which is not as rare as we would like to believe.[2] In 1971 Litwack and Sakata heavily plagiarized the 1967 M.A thesis of Kent State

student John R. Cullen[3] by publishing a paper in *Psychological Reports*[4]. Not only were Litwack and Sakata guilty of plagiarism—a cardinal academic sin-but also misuse of public funds. They used $ 150 of public (Ohio) funds earmarked for the Guidance Bureau in order to subsidize the publication of their paper. This published paper was then used to help Litwack maitain his full membership and Sakata obtain full membership in the Graduate Faculty. The use of the *Psychological Reports* paper, under these circumstances, thus makes both men not only guilty of plagiarism and misuse of state funds but also academic fraud.

Proof of the Plagiarism

A. On page 353 of the article, the sample is *exactly* like the one in the Cullen thesis. See pages 24 and 25 of the thesis. B. On pages 352-354 of the article the tables contain figures *exactly* like those found on pages 34-38 of the thesis. C. Of the 15 references listed at the end of the article, 12 were taken from the thesis, one was Cullen's thesis (listed as if it only had a passing relation to the paper), and two were publications by Litwack. It was never suggested that "their" research article was any work other than their own. There is not the slightest hint that the article had anything to do with the Cullen thesis.[5] Sakata had nothing whatever to do with Cullen or his thesis and he was listed as the senior author of the paper. On the other hand, Litwack was Cullen's major thesis adviser and, therefore, knew much about the Cullen thesis. Here is another case of student exploitation at its worst.[6] It is the clearest case of plagiarism I have ever seen in two decades.

Frumkin Dismissal

In March, 1975, at what was announced as a routine department meeting. Frumkin's departmental chair, Dr, Glenn Saltzman, a close friend of Litwack and Sakata, formally presented the 95-page book of charges to Frumkin and all members of the department and asked them, "within 48 hours" to vote, "after reading the document" on whether or not Frumkin should be dismissed. Frumkin's colleagues voted unanimously that he be dismissed.

Frumkin requested a hearing before his faculty peers. In may and June, 1975, after two weeks of hearings before an all-University hearing committee, his colleagues votes 3-2 that he not be dismissed and sent their recommendation to President Glenn Olds. President Olds, a staunch conservative who found controversial social activist Frumkin a perpetual irritant, recommended that the Board of Trustees (which had the power to dismiss) dismiss him. In July, 1975, the Board of Trustees, ignoring Frumkin's peers and all principles of due process, voted 5-2 that he be dismissed.

Since that dismissal, even though Frumkin is a distinguished scholar (listed in *American Men & Women of Science, Contemporary Authors, International Scholars Directory,* etc), he has had a pariah status in the academic world and has not even been able to get employment in the non-academic world commensurate with his abilities.[7] Frumkin has lost efforts

at reinstatement at Kent State both in the state and federal courts. In spite of the fact that independent scholars[8] and Frumkin himself[9] have shown that Litwack and Sakata, his enemies who spearheaded his dismissal, were clearly guilty of plagiarism, misuse of state funds, and academic fraud, Frumkin remains relatively unemployed and unemployable. While Frumkin struggles in relative poverty, Litwack and Sakata have lived in professional luxury.

Litwack took an early retirement from Kent State and is now a full professor and department chair at Northeastern University. Sakata is a full professor and department chair at the University of North Carolina, Chapel Hill. Litwack is a Professor Emeritus at Kent State.

In 1976, the Kent State faculty was up in arms about a *student*, one Andres Bermudez, who plagiarized a portion of his doctoral dissertation at Kent State. Faculty leaders, administrators, and trustees called for revoking his doctoral degree, even though Bermudez was now a dean of a college in Puerto Rico and such a step would ruin his life.[10] In a March 7,1978 letter to the *Record-Courier*, "a daily newspaper in the Kent area, 13 leading Kent State professors stated that if there was "certain evidence that Bermudez engaged in academic deceit, then the choice is ethically clear—he should categorically have his degree revoked." One of the signers of that letter, Prof. Kenneth Calkins, stated in that same issue of the newspaper that "It needs to be made clear that if this is plagiarism, this faculty won't accept any deals. If anyone has considered making a deal, the faculty would not accept it.. It's a matter in which the reputation of this university is being challenged." However, these same 13 professors, including Calkins, when approached by Frumkin on the *faculty plagiarism* of Litwack and Sakata, refused to help him by exposing Litwack and Sakata because, in doing so, they knew they would surely discredit the University's case against Frumkin, thus bringing more shame on the University. In spite of the fact that the Bermudez student plagiarism gained state and nalional attention, no newspaper in Ohio or elsewheve in the USA has dared print anything on the Litwack and Sakata faculty plagiarism. The *New York Times* sat on the Litwack-Sakata story for almost six months and then decided not to publish anything on it.

Frumkin, in a continued effort to get reinstated at Kent State and get his name cleared, has contacted the presidents of all three universities involved in the plagiarism coverup, Those Presidents have refused to do anything about it. The current president of Kent State, Dr. Michael Schwartz who in 1975 was the Dean of the Graduate School at Kent State, asked that Frumkin be kept out of his sight; he has strongly resisted all efforts to expose Litwack and Sakata and has supported the blacklisting of Frumkin. Since Litwack and Sakata are no longer at Kent State, although Litwack is officially a Professor Emeritus there, Schwartz says that Kent State has no interest in or obligations relative to the past behavior of Litwack and Sakata.

Academic Assassination

Since his dismissal in 1975, scholar Frumkin has been in a pariah status in his own country. He has been blacklisted not only from teaching full-time

at any accredited American university but also prevented from even obtaining full-time employment in non-academic jobs. *All* prospective employers ask him about why he left Kent State where for more than 8 years (1967-1975) he was an honored member of the faculty. And in all honesty he has not been able to avoid telling prospective employers the truth. The only way that Frumkin survives financially is to work at several poorly paying part-time jobs. In 1980 Frumkin helped found the Social Activist Professors Defense Foundation, an organization dedicated to helping suppressed professors by publicizing their cases and raising funds for their struggles. SAPDF publishes a quarterly journal, *Zedek*, and he is currently editor of it.[11]

Strategy for Redress

Only an expose of the Litwack-Sakata affair, at this time, can provide the means by which Frumkin can reopen his case against Kent State and finally gain the redress he deserves. I urge readers of *Philosophy and Social Action* to see that the Litwack-Sakata plagiarism story gets into the mass media in countries where the American university power elite cannot pressure the continued coverup. The universities in question must be forced to face up to their responsibilities so that Frumkin will have a chance to spend his remaining professional years in dignity.[12]

I think a letter writing campaign to the trustees and presidents of the universities in question will also help Frumkin. The name of the president of those universities are as follows :

Dr. Michael Schwartz, President
Kent State University Kent, Ohio 44242 USA (telephone number) (216) 672-2121

Dr. Christopher C. Fordham III. Chancellor
University of North Carolina Chapel Hill, North Carolina 27514 USA, (919) 962-2211

Dr. Kenneth G. Ryder, President
Northeastern University, 360 Huntington Avenue Boston, Mass. 02115 USA (617) 437-2200

Dr. Litwack is now a Professor at Northeastern.

Dr. Sakata is now a Professor at the Vniversity of North Carolina.

Drs. Litwack and Sakata were professors at Kent State in 1975.
Supportive letters to Frumkin would also be helpful. He may be reached at this address :

Dr. Robert M. Frumkin
Adjunct (Part-time) Professor Hutchinson Hall, Room J105H Kean College of New Jersey Union, New Jersey 07083. □

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8. For example, Dr. Giles E. Gobetz, Sociology Department, Kent State University, Kent, Ohio 44242.
9. Frumkin, op. cit. note 5.
10. *New York Times*, 25 April 1977, p. 18.
11. *Zedek* is published in Detroit, Michigan. Address: 19329 Monte Vista Drive, Detroit MI 48221, USA.
12. On Frumkin's social activism at Kent State, see Helen R. Samberg, 'Academic repression at Kent State University', *Zedek*, vol. 2, no. 1, pp. 82-91 (February 1982). Since 1981 Frumkin has been living below the USA-established poverty line.

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The Psychological and Biosocial Consequences of Academic Suppression

R. M. FRUMKIN

In the classic WHITE COLLAR, C. Wright Mills made the unfriendly comment that "Men of brilliance, energy, and imagination are not often attracted to college teaching," and that colleges do not get their fair share of the best brains.[1] After having spent more than 20 years as a college professor, I am inclined to agree with Mills. with few exceptions whom we can call 'academic outcasts'. As a whole I characterize them as all those things Mills says most academic perennial professors are not, that is, brilliant, energetic, imaginative, and somethings Mills did not mention, namely, fiercely independent, satirical, downright courageous, and often very witty. They are the gadflies whom Philistrine college presidents find ready targets for their Procrustean frustration. They are the teachers who make rather dull campuses lively, exciting and meaningful. The saga of a few such professors who have experienced academic suppression in recent years in the United States will be recorded in this paper.

In 1980 Dr. Robert Dyal, tenured professor of philosophy at Kent State University for 11 years, took a leave of absence. Anticipating that he might never return to Kent State, in an eloquent letter to *The Daily Kent Stater*, the student newspaper, Dyal in a cry of anguish stated : "I lament, to be a faculty member at Kent State is to live with a broken heart." Mimicking the fictional anchorman in the film *Network*, Dyal said ; I'm mad as hell and I'm not gonna take it anymore."[2]

Dyal's cry of anguish is from a person who was not denied tenure, not dismissed from a tenured position, and had not experienced the hellish aftermath of what is essentially academic blacklisting.

Imagine then the extent to which anguish and broken hearts may be the burden of the academic outcasts who roam the world today, We wish to review here some of the personal reactions, the social psychological and biosocial consequences of what such outcasts have experienced and are exneriencing. Since I am one of those outcasts, I will include my experiences as well[3].

1. WAYNE HIELD, sociologist, social activist, free love advocate, anti-McCarthyism leader, denied tenure at the University of Buffalo. The

stress associated with his blacklisting I feel contributed to his developing multiple sclerosis and to his premature death.[4]

2. ROY LICHTENSTEIN. artist and art professor, denied tenure at the Oswego State College in New York. His satirical humor and wit was never fully appreciated at Oswego. Fortunately for the world he left academia and now is known the world over as one of the great top artists.

3. JOHN CHARLES KOKEN, mathematics professor, also denied tenure at the Oswego State College. This brilliant man was a social activist with the kind of razor sharp satirscal wit which caused administrators to take cover every time he opened his mouth. After leaving Oswego, the trauma of tenure denial led, in part, to his divorcing his wife, and the early onset of heart disease. He died in obscurity, after holding several low level jobs in community colleges (two-year colleges).

4. F. JOSEPH SMITH, music and philosophy professor, dismissed from his tenured professorship at Kent State University. Smith is a brilliant renaissance man who was a union organizer, peace activist, and critic of academic fraud on campus. Like the late Koken, he has a satirical wit and facility with words which caused timid college administrators to run for cover. Since his illegal dismissal in 1973, he has not held a full-time job. Like so many academic outcasts, he and his family servive on part-nime jobs and there is a daily struggle to take care of basic necessities. The stress associated with his dismissal and his relentless efforts for redress, it is believed, have led to severe psychosomatic ailments in his wife and the stillbirth of his only son. Smith has also suffered from psychosomatic and psychological problems stemming from these many years without a normal job and income security. His two young daughters, it seems to me, have also been psychologically damaged by living in a family atmosphere continually under stress. Although Smith continues some of his former scholarly activities outside of academia, it is said that hundreds of students have been deprived of his teaching and inspiration.[5]

5. ANGELA DAVIS, social activist, has never been granted tenure at an American university or college, although she has held nontenured, adjunct positions at several colleges. This brilliant, eloquent, vivacious leader of the Communist Party of the USA, author of popular books on social issues, is just too much of a threat to the status quo in stodgy American colleges and universities. Like Lichtenstein, however, she has done well without a full-time, tenured position in academia.[6]

The above persons are but a few of the many academic outcasts I personally have had some contact with.

I guess that the most common psychological consequence of intellectual suppression whieh results in expulsion from the academic world is depression. It is the type of depression which is similar to that experienced following the death of a loved one. In this case the dead loved one is the *Academic self*. There are very few professions in which the ego is so inextricably woven into work as that of the committed academic. The academic life is not tied to

the clock. It is not a 9—5, weekdays only type of work routine. Committed academics' *whole* lives are ubiquitously involved with ideas, books, journals notes, data, endless scholary adventures, an obsessive need to know, and an insatable curiosity. I have known spouses so jealous of their academic mate's involvement with scholarly projects that they (the spouses) have voiced the idea that they feel it might have been easier for them to deal with an adulterous spouse than a scholary one.

Academics forced to give up the work they love consequently often go through four of the five stages which Elisabeth Kubler-Ross describess when examining the terminally ill who have learned the truth about their condition. That is, they first experience *denial* as expressed in the idea that this can't be happening to them. Second, they feel much *anger* and ask "Why me?" Third, they attempt *bargaining* with their enemies, asking : "Let me stay on just another semester. Give me time to find a new job." They never feel ready to leave and literally often have to be forcibiy removed from their offices which have served as a kind of home away from home, Once leaving the university, there is the *depression* which follows the anxiety engendered by the loss of the academic self and best exemplified in that special office crowded with myriads of books, journals, papers, data, and indelible memories. "How can I give all that up ? Now I have nothing ; I am nothing", the outcast might be thinking and feeling. The final stage is one which academic outcasts rarely reach, the stage of *acceptance*, that is, being able to say and feel "It's all O.K. I can find a new life in some other work."[7] Although this is a healthy attitude, not too many make the successful transition and change their life goals. Lichtenstein made a sensational shift and success was his great fortune. But most others I know about have been much less fortunate. The stress associated with Morris Starsky's struggle for redress and getting another job in all probability had much to do with his developing heart disease prematurely.[8] He was dismissed from his tenured job as assistant professor of philosophy at Arizona State University in 1970 and he is still in the process of seeking full redress, if such a thing is humanly possible. How, one might ask, and this applies to most victims of intellectual suppression, does one obtain redress for health and family ties destroyed ? There can never be, in the best of all worlds, full redress for the damage done to such persons' lives.

While visiting a hospital several years ago I was walking down a corridor and saw a middle-aged man in housekeeping (custodial) clothes mopping the floor and looking rather pensive and detached. I said to myself : "I know that man." And indeed I did. Ii had been a former colleague of mine who was one of those victims of intellectual suppression who never made it back to an academic or any decent job. I reluctantly asked him : "Why this work ?" His answer was straightforward and to the point : "I've got to eat and pay my rent. I've got to survive." His image still haunts me like some persistent, restless ghost.

That encounter made me angry as hell. If he had been the same scholar

in Japan he might have been declared a "Living National Treasure." The Japanese people honor their gifted people. They don't unwittingly or consciously destroy them as we often do in the USA.

For each of us, the loss of some part of university life is like the loss of a limb and more. For me, the loss of my library carrel is such a personal loss. That small, private room hidden in the bowels of the huge library was like a womb—a place of peace and quiet and refuge. There was no telephone there, no knocks on the door; no intrusions into the thought one might be in the midst of.

And then there were the students with whom I worked on theses and dissertations. Those were special adventures with special people and extraordinary priceless satisfactions.

Most of all I miss the teaching/learning process in the advanced graduate seminars. Each encounter was a challange which engaged the best in all of us.

I have been away from university life, as I knew it back at Kent State (1967-1975) for some 12 years, I was, I readily admit, spoiled by that academic lifestyle. There I had the time and energy to do all the things I really loved to do—teaching, research, clinical practice, and publishing, as well as having time to enjoy extracuricular sports, music, and artwork, and even a rich personal social life. I have never fully accepted the fact that I am blacklisted from teaching full-time in an accredited college or university in the USA. Unfortunately, I have been too rigid in not focusing my energies into a new career away from academia as some other have done. For example, Staughton Lynd, the able historian dismissed from Yale University for his anti-Vietnam War activities, went to law school and is now a successful labor lawyer. Katherine van Wormer, former sociologist and criminologist, not wasting a minute after being denied tenure at Kent State, went to social work school and is now a social worker[9]. After 12 years I am still, as a know many others in my situation are, not ready to bury the academic self and begin a new non-academic career. It's a funny thing. Doing this essay makes me for the first time (since 1975) able to think that now I am finally ready to look into preparation for and involvement in a new career even though I'm getting very close to the general retirement age. I am now almost ready and looking forward to burying my academic self and starting a new. May be, therefore, the important lesson of this paper is that the victims of academic suppression must be quicker than I have been to bury the academic self and begin a better life in something far from academia. It is the more sane and practical thing to do in a society where talented maverick scholar/professors are not regarded as *living* national treasures. □

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The Height of Ignorance in Housing

CEDRIC PUGH

Housing is bought and sold, and it is sometimes rented for an economic price. In this way it is a commodity, like motor cars, television sets, and other things we can obtain in markets. But housing is much more than an economic commodity. It expresses life's aspirations; our experiences of home are implanted in our mind and our memories; and in all sorts of ways it can influence the nature of relationships between children, men, and women. Housing has a part in the creation and reinforcement of relationships among people. Seen in this way, housiug is associated with ideals, with expectations, and with hopes in our very humanity. It is meant to be a dwelling where there is peace, security, warmth among those who live there, and some sense of independence. Human realities do not always harmonise with human ideals.

But ideals have some sort of a chance where a home can be created in a neighbourly and secure enviornment. Ideals can fall apart where the housing is seen as oppressive and depressing, or in places where public areas are vandalised and unsafe to walk through. The rich can buy their way out of bad places, but the poor and those on modest incomes have much less choice. Consequently it does matter a lot in the way housing either creates good human responses or, in contrast, sets the scene for social anonymity and destructive relationships.

The height of ignorance in high housing is also there for all to see. It reaches to the sky, sometimes standing thirty storeys tall. This sort of housing was built in large volume during the 1960s in Western Europe, and, in Britain it marked a break with the past when housing for the workers had been built in cottages and terraces. A cottage is built by carpenters, bricklayers, labourers, and people who use their hands in traditional skills. It can be loved, made snug and warm in winter, and adorned with flowers from the garden in summer. Children can play outside, with mother casting a caring and supervising eye from a window not far away. By contrast, a high-rise block is represented by architects and professionals as a 'technological masterpiece' of the twentieth century. It is systems built, having steel girders bolted together, concrete panels, aluminium frames for the windows, and a

large number inscribed on the wall to identify it from those around it which, otherwise, look the same. Apartments in the blocks are sanitary and functional, and within the walls women, children and men can make them reasonably homely. Outside the walls, promblems can arise. Lifts can be vandalised, thieves and perverts can walk in a highly peopled but anonymous environment, and children's play areas are a distant view from windows set twenty storeys into the sky. The contrasts are stark, and often they are personally important in the lives of people, with some cousiderable social implications.

Much high-rise housing has been associated with oppressive social conditions. At the worst, crime and vandalism dominate the environment, and sometimes the psychologically depressed leap to their suicide. These are extreme examples, and we can acknowledge that some high-rise housing has worked satisfactorily for its residents. The really interesting point, however, is that the idea of modernised life in tower blocks was born of social idealism. Where the results were bad, they were not intended at all, for the architects, town planners, and housing managers had something very beneficial in mind, They believed that high density living would create a sense of 'community' and an everyday experience of apolitical 'socialism' in the lives of the people. This was deeply embedded in housing theory and housing history. What was different about the 1960s was that the technology for massive production beeame readily available. Systems building became widespread, with some early initiatives originating in France and Denmark. It was not cheap housing. and except for some isolated luxury expression for the rich, in countries such as Britain and Australia it was not the type of housing favoured by those who purchased for home ownership. However, the situation was entirely different for public housing and for storngly subsidised 'social' housing in Britain, Western Europe, and in East European socialist countries. Government housing agencies were supported with powerful subsidies from central governments to build in high volume to overcome large shortages. The urgency was to build extensively to fill chronic deficits in housing supply in countries which had experienced rapid urbanisation, watertime devastation, and low rates of production in the economic depression of the 1930s. The systems technologies and the subsidies at hand in a period of economic growth and full employment seemed to provide an appropriate solution to the housing problem.

The housing theory supporting high-rise housing was an entangled and confused mixture of ideas from town planning, socialism, and the circumstances of history. Some of the key elements from social and housing theory run along the following lines. Some reformist socialists believed that home ownership was 'capitalist', and argued that rental tenure in public housing was more expressive of nonexploitive socialism. But tenure was not the only issue perceived to be relevant in housing. The theory of 'environmental determinism was implanted deeply both in the town planning profession and among socialist reformers. In practicat terms in housing, this meant that advocates saw high-density living and the provision of community facilities such as kindergartens, laundries, and meeting rooms as the way to create socialism

and a sense of community. By contrast, they argued that owner-occupied cottages encouraged a privatised and greedy way to living. Some advocates for high-rise housing went further, drawing upon economic arguments. They argued that high-rise housing is a better economic proposition than cottage or terraces because it saves land and it requires less expenditure on access roads, drainage, sewerage networks, piped water, and electricity cables All of this became a professional belief system, and when it was challenged by critics in the early 1970s it was strongly defended on the basis of 'clan loyalties' and the survival of housing bureaucracies.

Some aspects of 'clan loyalty' and idealism had been written into housing history. Housing provides a way of conspicuously demonstrating principles in practical projects. Sometimes projects attract publicity and attention, even on an internationsl scale. Such was the case of Vienna in the 1920s. In the years 1919-1934 the Social Democrats controlled city government in Vienna. They set about reforms, creating a system of progressive taxes, and adopting strong initiatives in social welfare, particularly in housing (Hardy and Kuczynski 1934). A solution to the housing problem required cheap land and initiatives in constructing new dwellings. Initially, the city government constructed temporary (emergency) housing and finished some unfinished private rental housing. Then in 1923 it launched a vast building programme. Some construction was in the form of four, five and six-storied tenements, set around open squares and having communal laundries and kindergartens. These housing projects attracted a wide European interest which was symbolised in the description of "dwelling palaces' for the workers. Vienna became part of the folklore of housing history. When the more recent systems building technologies were ready for use in the 1960s, they came into a historical context where more ideology ran in favour of high-rise housing. A new generation of architects embraced the new civil engineering technology in housing. Tall blocks could be built in open spaces with trees and lawns. The built form could be accepted as "daring', 'bold', and expressive of 'modernity' and 'progress'. Architeets were confident that the new creations could work well socially. They would bring people spatially together; working class street life in the terraces could be taken into new surroundings, with 'streets in the sky'; and people could be separated from unsafe motor traffic on the real streets. Professional confidence was strong in the technical qualities and the high standards available in a 'modern' technology.

The theory and the ideology rested upon abstract argument rather than evidence. It also excluded any critical alternative arguments. In fact, the theory could be challenged and unpieced, point by point. Some densities can be too high for reasonable living conditions, and some relatively high densities can be achieved in projects with mixtures of terraces, cottages, and low-rise (walk-up) apartments. When all economic costs are considered, high-rise housing is more expensive per dwelling than cottages or terraces. High-rise adds substantially to construction and maintenance costs (Stone 1963). High-density also adds demands upon local schools, health, and other services which may have to be expanded. Rather than just privatising life, cottages

and terraees may add to socially co-operative behaviour in the family and in the wider community. It is easier to design space in a flow from personal, to semi-public, and then to public characteristics, and all of this is important in the idea of defensible personal space and social interaction. High-rase often just creates private space set starkly against an anonymous public space, and it has open areas which are underused. Home ownership is not inegalitarian, though the poorest are often excluded for reasons of affordability and preference. Ownership in housing to moderate-income groups will provide some limited, but important, equalising tendencies in the ownership of wealth. It is, of course, also important to provide a good stock of private and social rental housing for reasons of increasing housing opportunity and as a counter to income and housing poverty. The foregoing statements can be used thematically and critically to challenge those who gave cause for high-rise blocks in mass public housing.

Clearly we can find good intellectual reasoning to reverse and reform the 1960s expressions of systems built housing. But reform is seldom achieved from intellectual argument alone: power has ultimate significance in the battle for persuasive intellectual arguments. The reformers opposing high-rise might expect contention, disinformation, censorship, and suppression. Clan loyalties to an entrenched belief in the virtue of high-rise housing would mean that a contest for persuasion and power would ensue. A possibility would then arise that attempts would be made by the advocates of high-rise housing to use their power to suppress opposition. They had the power of employer control in the bureaucracies administering housing. This gave them control and power over employment, research, publication, and support from the construction industry which depended upon housing contracts. As for the reformers, they had to win power, taking opportunity in research, in the media, and occasionally in the housing bureaucracies.

The remainder of this article examines the contest for power and persuasion, with an emphasis upon the history of suppression and its nature. My approach is to focus on the personal experiences of one of the advocates for reform. The reasons for this are several and they add interest to the wider contest between protagonists and antagonists in high-rise housing. Ultimately it is individuals who are suppressed, and consequently suppression has its personal and human dimensions. Also, this contest for power and persuasion ranged over a period of some two decades, and sometimes it is possible to find a personal and career life in housing which covered the whole period in varied situations. We can find such a biography of life in housing. Joan Ash served as an elected representative on London County Council, with extensive experience on its Housing Committee. After she departed from the Council with some disillusionment, within a few years she joined a housing research team which was pioneering sociological survey work in some of London's public housing estates. Her interpretations of tenants' attitudes differed from those of her more conforming colleagues and her research contract was not renewed. In her next housing experience, Joan Ash joined a research team in

the British government's Department of the Environment. Her role was to bring sociology into interface with architectural design and thereby to try to influence new design work in housing. This clearly would bring sociological research into contention with high-rise housing. Sometimes the results of the sociological work were ignored; and publications delayed for years. Joan Ash left the Department of the Environment, and has since been a housing consultant, author on housing, and much involved in the development of international sociological conferences on housing. Joan Ash is an Oxford graduate, a mother, and a good companion to those who travel and write about social housing. She lives in a pleasant home of character; set in trees, in Kingston-on-Thames, London. Joan Ash has seen and visited housing estates throughout Britain, in the United States, in Singapore, in Australia, in Hungary, in Sweden, and in many other places. She is very much at home among the poor and in areas where ethnic minorities live. What follows is very largely a biography of her housing life.

Housing policy and the London County Council

The London County Council (LCC) has a central place in British housing history. It was created under the 1888 Local Government Act, with the result that London had a new democratically and directly elected metropolitan government, replacing the indirectly elected Metropolitan Board of Works. From the beginning, it was moderate socialist theory and working class politics which influenced the LCC, ensuring strong support for public housing and municipal socialism. Wishing to have clearer powers and effectiveness in public housing, the LCC made representations to central government, and those were met under the 1890 Housing of Working Classes Act. Public housing was set to expand in London and in British provincial cities. In London the LCC continued the slum clearance work begun by the former Metropolitan Board of Works. It moved towards a monopoly in social housing by imposing higher and uneconomic standards on the East End Dwelling Company and other organisations building low-profit and nonprofit housing for workers. The LCC justified its policies on the basis of improving standards of convenience and beauty in low-income housing. In fact, the LCC was proud of its innovation in housing. After 1897 it built some suburban rental estates, adding to its inner-urban tenements and slum clearance work.

Public housing expanded in volume and significance, following the 1919 Housing and Town Planning Act. This Act provided central government subsidies for public housing constructed by local government. Boosted by subsidies, by the 1960s British public housing provided over 30 per cent of the total housing stock. During the course of the history of public housing, some features were incorporated into subsidies for slum clearance which, later, facilitated high-rise housing. In the late 1920s, Sir E. D. Simon, Lord Mayor of Manchester, 1921-1922, publicised the case for more effort in slum clearance. He advocated heavier subsidies for slum clearance, linked to family size and to local governments' slum clearance activities. The 1930 Housing Act gave effect to Simon's ideas, and under some economy measures during

the Great Depression, public housing in the 1930s became confined to slum clearance. The wider subsidies for new construction were restored after the Second World War. It was at that stage that Joan Ash was elected to the LCC.

Joan Ash was an elected councillor on the LCC from 1946 to 1949, and she was a member of the Housing Committee from 1946 to 1955, serving her last six years as a coopted member. This was a period of gross housing shortage following wartime devastation, a cutback in building in the Depression, and continued population growth. The urgency was to build in volume, with little time for consideration of the finer points of the sociology of housing. Generally the new tenants were pleased to have housing at all, and the LCC provided higher standards of comfort and convenience than those found typically in low-income private rental housing. Tenants had some housing choice. Inner-urban housing was mostly in tenement form, with central areas having densities of 200 persons per acre in high-rise flats, and other noncentral areas having densities of 100 to 136 persons in mixed developments of houses, low-rise and hiag-rise tenements. It was not until the 1960s that 'high-rise' went above six storeys. Other tenants could choose suburban housing estates built in the form of houses, but requiring longer journeys to work.

Joan Ash has reflected upon her experience in those crucial years when housing was desperately short in supply. She learned some years later that an LCC architect had designed some 'blind side' houses which could achieve densities of 100 persons per acre: but the Housing Committee was not informed of this. Such townhouse developments, of course, became popular in the private sector, and they were cheap to construct. Generally, the Housing Committee could not act effectively, either in policy development or in review of housing project proposals. The projects presented to the Committee were fully detailed and scarcely capable of substantive amendment. Professionals and chief officers dominated the process of conceiving, producing, and presenting project proposals within their preordained density norms. Discussion was all but eliminated. In Joan Ash's words (1987, p. 2):

> "We backbenchers spent hours at Council and Committee meetings, but anything more than a brief intervention from us was regarded as a nuisance. At Council meetings the Chief Whip was busy going round telling members NOT to speak. The show was run by party leaders, who were also chairmen of the major committees, working closely with Chief Officers. Backbenchers were needed only to vote and as a pool from which to draw replacements for members retiring from official positions."

As we might expect in the nine years that Joan Ash spent on the Housing Committee, "there was never once a discussion on housing policy, either in the housing majority party group or in the Committee." In particular, there was also never any discussion of housing design, housing form, or management problems. Officers simply presented project proposals and statistics on building volume and slum clearance. Members of Council sometimes visited 'showpiece' estates, but did not view and visit estates generally to find out

how residents felt about the housing, or to evaluate in critical perspective. Joan Ash, who was on the LCC Education Committee, did visit schools and learned about actual teaching conditions from a friend, but she had no such contacts in housing. In housing, Joan Ash was aware that working class families preferred houses to apartments, but the Chief Housing Architect dismissed her idea that additional houses could be built if the high-rise elements were built higher still. In the light of subsequent housing trends it was a good suggestion, but it could not influence policy. Policy was predetermined, without discussion among the elected members.

Evidence began to materilise on tenant attitudes to high-rise housing. A senior architect in the LCC initiated a survey and it was reported after Joan Ash had left the Housing Committee. Families with children preferred houses. However, the survey indicated general "satisfaction" with the LCC apartments, and it was this aspect of the survey which was emphasised within the LCC. Meanwhile in the late 1950s new designs for the new systems built blocks were in preparation in the architects' sections of the LCC and in other local government authorities. The design process had ignored tenant opinion and no initiatives were taken to collect more detailed information in user feedback surveys. The housing for the 1960s was predetermined from the drawing boards of the late 1950s. Some new estates were to be enormous, with large concrete slabs, deck access to apartments, 'walkways' in the sky, and millions of pounds of cost. Joan Ash noticed that problems would become aggravated. Resident caretakers were removed from the estates and placed in central housing offices to reduce costs. This occurred at the same time as the social composition of housing estates was changing. In the early post-war years housing was in such short supply that public housing was allocated to a large range of social and income groups, including people in skilled occupations. As housing supplies increased generally in the British housing system, some better-off tenants transferred to home ownership in private housing. London's public housing was increasingly becoming housing for low-income and low skilled households. The new high-rise housing would be peopled with much less social mix than the older tenements.

To this stage in the high-rise housing history, suppression had been mild and in the background. Evidence was available that families preferred houses rather than apartments, and an occasional architect had shown that satisfactory densities could be achieved in low-rise and mixed form housing. But all of this was set aside in favour of the prevailing norms in housing projects and in the strong social cause of adding significantly to the volume of supply. Had supply been low, then social problems in housing would have been extensive, especialy with a lack of access among low income households. As Joan Ash herself notes (1987, p. 4) the really disturbing feature to this stage was the nature of local government. Elected representatives were serving narrow party interests rather than broad welfare. Also, the elected representatives were dominated by senior professional and administrative officers whose knowledge of housing was more technical than social. It was an age when

social science had little influence in professional practice in housing and urbanisation Social scientists awakened to relevance and critical analysis after the mid-1960s. This was a time when systems building was strong and established. This earlier period was also one which did not have much in the way of policy analysis and evaluation of programme performance, those things becoming more common in the 1970s. For Joan Ash, the role of a passive and uncritical elected representative was unacceptable. She took her talents in housing and social science to other parts of the housing process.

The Centre for Urban Studies, University College of London

The sociology of housing and urbanisation stood at a watershed in the late1950s. Its history was mixed, and few universities had much in the way of teaching and research in the field. Studies of poverty had relevance to housing because housing absorbed a high proporiton of household expenditure and the poor often lived in substandard slum conditions. Other studies in the 1930s reviewed some public housing estates in the suburbs, emphasising the problems of creating a 'community' in new areas, compared with the cohesive social networks in older parts of cities. But the main theoretical view of housing and urbanisation was closely tied to the theory of 'environmental determinism'. From the 1920s urban specialists had argued that bad housing was responsible for a 'culture' of poverty, for delinquency, crime, and other social problems. In short, their view was that if housing were to be improved, social problems could be reduced. This was inverted causation, and in the light of studies of economics and sociology in the 1960s we now know that it is low income and social structure which are the causal elements in slum living. At the end of the 1950s, urban sociology was poised to take two separate developments. One would look at urbanisation as a whole and the theories which guided it, leading to corrections to the theory of environmental determinism. This approach was established by Broady (1968) and Gans (1972). The other approach was to extend social survey work in housing. Ruth Glass at the Centre for Urban Studies was an earlier pioneer in the modern development of this work. Joan Ash joined her research team at the Centre for Urban Studies in 1958. The survey work was of public housing in the LCC Lansbury estate at Poplar and the Westminster City Council estate at Churchill Gardens.

The survey work was an elevating and insightful experience for Joan Ash. Her interests went far beyond those of developing a superior technical index to measure 'tenant satisfaction'. She was interested in the tenants themselves, their housing experience, the way estates were managed, and the social problems in evidence. This was not entirely the purpose which the Centre for Urban Studies had in mind. Its emphasis was upon the 'scientific aspects of survey work, ways of reporting the results which would be impressive in the new housing literature, and building up wider academic confidence in the intellectual credentials of the work. It is, of course, possible to combine some rationalist science with human and social causes. But to achieve this there has to be some common interests among the researchers. For Joan Ash,

the experience showed her "how to obtain feedback from tenants and identify problems and unmet needs" (Ash 1987, p. 4). However, for Ruth Glass and her senior research officer, John Westergaard, the research was set to achieve other purposes, In the words of Joan Ash (1987 .p. 5) :

> "The CUS surveys showed, as usual at that time, that residents were generally satisfied. The questionnaires were not designed to probe problems, but problems with children were reported. Although Ruth Glass was one of the few urban sociologists in Britain at that time, and had some outstanding abilities, she was not particularly interested in the detailed needs of residents—she assumed architects would look after them. Nor did she realise the limitations of the index of satisfaction."

Joan Ash found what she was looking for, regardless of the narrow confines of the questionnaires. Churchill Gardens had a "superlatively well-organised .. tenants' movement." Her contacts with the tenants' association meant that she had a ready way to obtain information about the housing estates, writing up the history of the tenants' movement and comparing experiences on various housing estates in south London. What did Joan Ash find ? High-density estates had gangs of youths who broke up youth clubs manned by volunteers; the gangs taunted and booted homosexuals in the area; and the housing authorities would not support the tenants' associations' representations for social planning in the estates. In social planning, attempts would be made to use leadership among tenants to develop neighbourhood activities and to provide clubrooms. Ruth Glass was not interested in these aspects of high-density living among working-class families, contending that "cities required a high density to realise their social, cultural, and economic potential" (Joan Ash's words 1987, p. 5).

Joan Ash worked on the 'scientific' side of the survey with John Westergaard. The results were written up by Westergaard without consulting Joan Ash. She thought the conclusions in the report were not based on the survey data, and asked for her name to be deleted from the authorship of the report. The result was that Joan Ash's research contract was not renewed. She had learned things about the world of academics and research. Very often, academics will appoint people who are sympathetic to their own views and remove those with opposing views. Sometimes academics will be less than 'objective', and 'scientific', even in research which is designed for technical excellence. However, Joan Ash had obtained research experience at the Centre for Urban Studies, and opportunities for sociological research would grow in the 1960s. She was able to continue her career at the Ministry of Housing and Local Government at the Department of the Environment, as Research Officer.

The Ministry of Housing and Local Government, Department of the Environment

Joan Ash was Research Officer in the Ministry of Housing and Local Government from 1961 to 1966. This was a time when systems building

housing expanded rapidly in Britain, reaching 50 per cent of the annual output of local government housing by 1965. Joan Ash worked in the sociological section of the Research and Develop ment Group which had the purpose of bringing innovation and experiment to architectural design. Essentially, the sociologists were to conduct surveys of user needs and these social dimensions were to be used by architects to design new forms and features in housing. At the end of the process, the new designs would be subject to evaluation and feedback. In potential, the course was set for early modification or basic revision of systems built housing which was built over 15 storeys into the sky. The potential might not be realised, of course, because professional contentions, bureaucratic inertia, and passive politicians stood between the research and the policy ends of the housing process.

The surveys were organised as intensive reviews of households *in situ* in public housing, with sociologists and architects operating together. Innovations began to flow in the 'micro' detail of design in houses and apartments, but much less so in the larger issues of the estates as a whole. These larger issue s revolved around the extent to which high-rise forms should be used at all in public housing, and the proportionate mixes of houses, low-rise, and high-rise blocks. At time the architects, who dominated the Research and Development Group, resisted criticism from user feedback studies. For example, significant condensation problems occurred in some dwellings, and the sociologists recognised this as a fault from design and construction. However, the architects blamed this on the way residents used their dwellings. The most significant surveys were in the new high-rise blocks. Joan Ash (1987, p. 7) presents graphic descriptions of the conditions :

"One of the three estates we studied on our high-rise survey was in Liverpool. Whatever type of dwelling they lived in, the tenants on this estate were much less satisfied than the tenants on the estates in London and Leeds which we also surveyed. I was showked by the conditions on the Liverpool estate : the grounds and communal areas were in a very bad state and the estate was surrounded by derelict land covered with unhealthy and dangerous rubbish. It was on that estate that there was bad condensation in some blocks and in other blocks people were freezing because they could not afford the electric underfloor heating what had been installed. Whilst interviewing there, I was asked to sit on nappies to help to dry them and my breath condensed and hung in the air. It was not part of my duty but I went to see someone in the Liverpool Housing Department to find out why this estate was in such a bad way. I was told the tenants were a bunch of roughs and that it was no good doing repairs. Again, the victims were being blamed. We had interviewed a fair sample of tenants and their worst attribute appeared to be their debilitating poverty. The generally highly respectable tenants needed support from the council rather than neglect and lack of response to their reasonable requests."

This evaluation was one thing as an impression from as good researcher, but it was quite another if these sorts of things were published. In fact, the

survey work was being collected for a Ministry publication entitled "Families Living at High Density.' Joan Ash had found plenty to be critical about, and her surveys revealed the unsuitability of high-rise housing for low-income families. One major problem was that mothers could not adequately supervise the play activities of children in the areas outside the apartments. However, this sociological research could not stop high-rise housing in its tracks. Architects selectively ignored what they chose to oppose. They went further. Some new visions of walkways and 'streets in the sky' became a new enthusiasm. These were justified as a means to facilitate neighbouring and children's play. Joan Ash pointed out their unsuitability, their generation of noise, and their potential for crime. It was all ignored. The research report 'Families Living at High Density' was ready for publication in 1963, but the administrators in the Department of the Environment delayed its publication until 1970. Bureaucracy had suppressed information which might have threatened its survival. The consequence was a continuation of diswelfare in some sections of public housing for up to a decade. Had Joan Ash's work been published in 1963, high-rise housing would have been challenged critically in the wider society.

Evaluation and Conclusion

High-rise systems built housing died in Britain by the mid-1970s, From within the Department of the Environment it was economic factors which turned the tide against high-density estates. The Ministry of Housing and Local Government, Circular 36/37 ('Housing Standards and Cost Subsidies', 1967 specified obligatory standards for local Government housing, and used a yardstick to keep costs within prescribed limits. The Circular pointed out the comparatively high cost of high-rise housing and it emphasised the economic merits of low-rise housing whenever this was possible. The Circular went on to say that local authorities must show very good reason for building at high densities, and the subsidy tables were framed in such a way as to support the views expressed. In fact, as mentioned earlier, Stone (1963) had discovered this in his research of housing developments built before systems building became so dominant. The systems built high-rise had subsidy incentives, all set in the subsidy tables of 1956. The effect of the 1967 Circular was to reduce the incentives for high-rise blocks. Joan Ash's research from whithin the Department of the Environment added sociological support for the case against mass high-rise housing. But the sociological, architectural, and economic research was not co-ordinated and set to achieve overall policy review. From outside the housing bureaucracies, Pearl Jephcott (1971) published a book revealing the sociological problems which were evident in high-rise housing.

The media played an important role in reversing policy and bringing the demise of high-rise housing by the mid-1970s. It found abundant examples of sensational issues to publicise. In 1968 a gas explosion took place in south London estate, unhinging one side of a tower block which collapsed. Injury and anxiety were publicised. In Birmingham a depressed housewife

leaped to her suicide holding her child in her arms. Further publicity revealed vandalism, gangs of intimidating youths on estates, appalling standards of construction, and the barren ugliness of some estates. In some cities action was taken to demolish high-rise blocks, and in others families were moved to houses on the ground. By 1974 the Ministry of Housing and Local Government was assisting local governments to improve conditions on problem estates.

Suppression had been socially and economically costly. What it was necessary to reform in 1974 might not have existed at all had the available evidence been used in a timely way. From within the public housing bureaucracies themselves the various relevant issues were known years in advance of their general public acceptance. In the late 1950s, architects in the LCC had revealed that satisfactory densities could be achieved in houses and low-rise forms. By 1963, Stone's economic studies indicated the very high cost of the higher densities which had been achieved at that time. After 1963, buildings became taller and consequently more expensive to build and to maintain. Also, in 1963, Joan Ash had her evidence in publishable form, indicating the bad sociology of high-rise for low-income families. For her, some twenty years of suppression and ignorance in local government, in academic research, and in a central government department of state had delayed the inevitable conclusion. High-rise housing could not be socially or economically justified for mass low-income housing. The suppression she experienced was the political pressure to remain silent, censorship and delay in her publishable work within both academic research and public housing institutions, and the nonrenewal of her contract in academic research. Essentially, she was opposed by professionals, academics, and bureaucrats whose interests were threatened by her research and enquiries.

Experience does not have to be like that which Joan Ash encountered. In 1970 I was studying low-income housing and urban redevelopment policies in Adelaide, Soute Australia. Social work and resident action groups were increasingly interested in these matters, bringing publicity and political action against bureaucratic opposition. I was invited to address social work groups on the economic and policy issues in low-income housing, and I acted as spokesperson for resident action groups on a high-rise redevelopment proposal for Hackney, an inner-urban area of Adelaide. I wrote to the Department of the Environment in Britain, seeking information on its experience with high rise housing. The letter was passed to Joan Ash who replied giving me the full (uncensored) story of the British experience. The proposal for the Hackney project was in the constituency which elected the Premier of South Australia, Hon. D. A. Dunstan. I lived in that constituency, and I wrote to Dunstan, sending him copies of Joan Ash's correspondence. Meanwhile resident and social worker action grew in opposition to some housing policies in South Australia. In 1973 Dunstan scrapped the high-rise redevelopment proposal for Hackney and invited me to join the Board of the South Australian Housing Trust.

The proposal for the redevelopment of Hackney had originated in the State Planning Authority, not in the Trust. The Trust was a statutory authority with a Board of seven members who were not party political representatives. Since 1936 the Trust had developed a variety of rental and home ownership programmes; it built new towns; it financed and developed industry and commerce as well as housing; and it had an international reputation as an innovator in social housing. For many years, Alex Ramsay, General Manager, had known that families were averse to high-rise housing. He took his information from tenancy officers, not architects. As a Board member, I made regular visits to the Trust's new and old estates, discussing issues with tenants, officers, and architects. Along with other Board members, outside the boardroom I had meetings with managers; architects, accountants, and engineers to discuss the business of housing. The managers and professionals would concede where it was reasonable, and board members learned much in the executive aspects of housing. Occasionally a 'knotty' problem or some bureaucratic impediment would need stronger representations and some action. The Trust learned enthusiastically how to use tenant organisations and social groups to enhance its housing management . By the late 1970s the Trust had joint management responsibilities in housing for alcoholics, women's refuges, the mentally handicapped, and so on. The manager of the estates management section knew that success depended upon having good relation with tenants. Some of the housing which was built under great pressure in the 1950s was refurbished, and community facilities were added to the neighbourhood. These were all the sorts of things which Joan Ash wanted to see in British public housing.

Joan Ash's work had been useful and productive in South Australia. But she did not know any of that work until I met her in Amsterdam in 1985, and she later visited Adelaide for an International housing conference in 1986. Her research flourished well in Adelaide; whilst in Britain public housing authorities are still struggling with the problems of managing high-rise housing and finding a productive role for tenants. □

Acknowledgement

Joan Ash provided me with nine pages of well presented notes on her biography in housing work. It made fascinating reading on an important subject. Without those notes this piece of writing could not have been done. Suppression may have demaged Joan Ash's career, but not her knowledge in housing. She was ahead of her time and deserving of professional standing.

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The Japanese Anti-Pollution Movement

FUMIHIKO SATOFUKA

When considering the course of environmental pollution-related issues in Japanese society, the most crucial factor has been the pollution victim incorporating "Jumin Undo" (Citizens' Movement) type grassroots organizations. These movements and organizations will most likely continue as crucial factors shaping social and political change. Japanese success with environmental pollution control has been noted internationally, especially in Western Europe, but the true motivating force behind these changes has been the grassroots movements, shaping public opinion, which in turn has forced administrative agencies to act. Due to the economic depression coming to the fore in the mid-1970s, these movements have also been exposed to difficulties, but there are now greater possibilities for political power emanating from them as they struggle with new issues related to the quality of life in its totality.

Japanese Society as Background for the Movements

Since the excessive development of rice paddy culture in the 18th century, a chronic shortage of irrigation water had been the basic common condition of Japanese farmers. They organized themselves into closed, exclusive agrarian communities, to provide stable supplies of scarce irrigation water in competition with neighbouring communities, thereby forming complicated tradition-bound systems of water use.[1] To maintain unity in these communities, conflicts were avoided as much as possible. The task of the community was to secure a water supply, sometimes even by force. A certain collectivism was created with individuals serving the group, along with a kind of Japanese rationalism aimed at developing individual capabilities to the maximum under given conditions for the sake of maximum crop yields. This strange combination of conflicting orientations became the basic norm of early Japanese society. This type of community informed by an agrarian mentality melded successfully

into modern Japanese society after the Meiji Restoration. Individuals in lower social strata were promised protection by the more powerful higher strata, in exchange for obedience. This stratified society was unified on a national scale under the authority of the Emperor system into a pseudo community. This was the nature of Japanese society before the second World War. The Great Asian Community was an expansion on this pseudo-community image projected onto the whole of Asia during the war.

After the defeat, Japanese militarism disintegrated, but the basic agrarian community concepts remained intact within corporate organizations, being greatly strengthened by formal education. The combination of collectivism and Japanese rationalism was well suited to the modern capitalist mass-production industrial system, and as such supported the Japanese economic miracle. On the other hand, the development of individuality and personality was greatly retarded. The Japanese post-war political system relied too heavily on large organizations and administration. Under such conditions, there were very limited possibilities for voluntary local grassroots movements developing until the 1960s when industrial pollution exploded on the scene.

2. Why Industrial Pollution Broke Out So Serverely in Japan

In spite of favourable geographical conditions such as being an island country surrounded by the sea, why was Japan to become the most industrially polluted country in the world, to the extent of having produced many victim deaths over the last several years? The answer comes from a detailed analysis of modern history as seen in the process of modernization and industrialization. There are many conditions that are different from those of Western European industrialization. The most important of those will be discussed briefly.

2.1. The Attitudes of Industry

Industrial capitalism in Japan was bred and grown from the very beginning under a strong national policy of "rich nation, strong army". There has been no history of resistance and revolution to imperialistic powers or to the feudal system in the process of capital formation, so industrial capitalism in Japan has not been forced to seriously consider the welfare of the people. There were few chances to argue for industrial social reponsibility as separated from the national interest, Industrial capitalism in Japan has always pursued maximum profits from specific capital under the support of a dominant nationalism protected by national power. Investment productivity was maximized by sparing even minimum pollution control facilities such as dust collectors and waste water treatment plants which were common sense necessities on the international level. This negligence was one of the three most important factors leading to rapid economic growth for Japanese industries, along with low wages and trade protectionism.[2]

The post-war modernization of the steel industry through the introduc-

tion of the converter without the dust collector, a total lack of water treatment in the paper and pulp industry, and a plating industry which greatly suaported the automobile and home-appliance industries: these are typical examples of early industrial pollution negligence, leading to rapid expansion of the particular sector. The attitude of industry toward pollution victims' movements was quite arrogant. Industry in the past freely used tactics including denying the existence of pollution damage, under-evaluating the damage done, blaming the victims for the problems as if they were outlaws, and bribing and scaring the victims' movement. It was quite common to deny cause-and-effect relationships by mobilizing industry-supported scientists. This attitude did not change even after World War II in spite of the democratization of Japanese society. More than 20 years of concerted public opinion were necessary to criticise such an attitude in the 1970s. Facing the chronic depression of the late 70s, Japanese industrial capitalism again started attempting to control workers, stressing collectivism and international competitiveness. This tendency is also visible in attitudes toward society as a whole stressing the national interest in the extreme.

2.2. The Role of National Policies and the Administration

The "rich nation, strong army" policy of the Meiji period survived even after World War II in the guise of industrial protectionism and a high economic growth policy. The intimate relationship between governmental administration and large industry has been cemented strongly during the past three decades. The "Lockheed Scandal", which has become the symbol of this system, is only a tip of the iceberg. Special tax exemptions for large industry, high priorities on the preparation of an industrial infrastructure through public finance, land speculation by monopolizing information, monopolizing public investments through secret negotiations among the leading construction firms, maintenance of cartels through licence systems, expansion of bilateral aid for developing countries, these are now well known protection policies for Japanese industry, and have become international issues. When high ranking administration officers retire early, some become managers in leading industries, some become politicians in the ruling conservative party, and as such they help each other in maintaining the present political system. The trinitarian structure of industry, administration and politics has been the basis for the stability of Japanese conservative power in the national government, and resembles military regimes in many developing countries. Industrial protectionism is so prevalent in Japanese politics that even in pollution control laws prepared in response to public pressure, there are cleary written clauses which describe the extent to which pollution control should be limited so as not to harm the profitability of industry.[3] Probably there ard few such cases in the world.

This national policy of protectionism controls local governments through laws, subsidies, and exchange of officials. Also, as is seen in recent public education issues, by controlling education in such a way as to produce a mass

supply of obedient, capable workers for industry, this policy is out to control the future of Japan also. Japanese national policy is exactly this, aimed at achieving the world's largest corporation, namely the giant industrial country Japan. It was quite natural that under this policy the government has always. supported industry and oppressed the people relative to issues of pollution when those issues have come into conflict.

2.3 The Character of Science and Technology

From the very beginning of Japanese industrial modernization, Japan has introduced the newest Western science and technology, and expended much effort in adapting it to Japanese conditions. Production technology was selectively introduced according to productivity levels. Pure science, being considered non-productive or harmful to ruling power systems, was carefully rejected. Many engineering technologies were examples of the former, social science was a typical example of the latter. Among engineering technologies, non-productive technology such as sanitary engineering had lower priority, so its introduction was much delayed. But some productive elements of hygiene, such as medical bacteriology for epidemic intestinal diseases, tuberculosis, and nutrition for beri-beri (all being difficulties in the early stages of industrialization and urbanization in Japan) were earnestly introduced very early, and developed with much support from the national budget. This selective introduction skewed the picture of science and technology in Japan.

But the most basic factor in Japanese science and technology has been skirting the stages of endogenous development with the newest forms introduced into Japan separately and selectively. The word "science" in Japanese, has a meaning which implies fragmented studies or sectionalized sudies. Rational thinking and a spirit skeptical of science were forgotten, with science and technology being considered tools for a "rich nation, strong army" type nation policy. People were motivated to become scientists or engineers, out of a desire for an elite position garnering great prestige, rather than out of humanistic orientations. There was no consideration of professional ethics, as science leaders were among the fastest social climbers to reach into the upper echelons of high society. In pollution issues, there were always many scientists to support industry and getting more research funds from it. They used social science to depress peoples' movements, by regarding such movements as problems of social disorganization. These scientists were always in leading positions in scientific societies, and controlled the distribution of research funds. This description of the situation fits the environmental sciences of the 1970s where departments were widely formed in many national universities. Almost all of them were collections of different sections of science and technology, all claiming relationships to the environment, and mostly expansions on old sections. There was little consideration of the synergistic, interdisciplinary character of the problem. Such limitless

expansion of sectionalism in science, without the benefit of ethics, is perhaps one of the reasons why Japanese scientists lack originality. Adaptations and explanations of introduced theory are the mainstream of Japanese scientific activity, rather than investigations of actual problems. Loyalty to the supplier of research funds and dependeny on ideology are common characteristics of Japanese scientists regardless of whether conservative or progressive.

Under these circumstances, there are still a minority of scientists who are trying to grasp industrial pollution as a large social problem. Due to great pressure from the government they are receiving unfavourable treatment in funding. There are many such cases in Japan. As an example. the University of Tokyo, representing the highest of hig er education in Japan, once in 1890 spoke out about cause and effect relationships in the Ashio Copper Mine Case, naming the mine as the polluter. This was not repeated again untill the 1970s with the Minamata Disease.

2.4 Weakness in Human Rights Concepts and Untrained Experience in Politics

Japan did not experience any bourgeois revolution in its history. This is the reason for its weaknesses in the human rights area.[4] Since the Meiji era there have been few peaks in people's movements on human rights. The first one was in the 1880s as a free democratic movement, but it was suppressed completely by the young Meiji government. Taisho democracy in the 1920s was flushed away by militarism in the 1930s. Democratization in the post-war era was not complete enough, as is seen in the Minamata Disease and Itai-itai Disease processes, and it has not penetrated into the real life of farmers and fisherman.[5]

On the other hand, the feudal character of the agrarian community was emphasized and expanded to national dimensions under the Meiji government. Even after the Second World War, feudalism was emphasized in public education as collectivism in the support of high economic growth for industry. The development of individualism was avoided in favour of maintaining national unity for collective goals. The value of a soldier's life was very light in successive wars since the end of the 19th century. Thus, even the loss of human life to industrial pollution was considered negligible compared tc national high economic growth goals. More than two decades were needed to escape from this neglect of human rights.

This exclusive, closed, and stagnant agrarian society was stabilized by the existence of an imperative authority and complicated multilayer systems of discrimination. The spirit of discrimination was supported sometimes by traditional oriental KARMA concepts and sometimes by meritocracy. To maintain the unity of the community, claims of rights were avoided as much as possible. In Japan a human relations technology for maintaining stratified society was developed to an extreme as evidenced by many personal pronouns involved in Japanese conversation. But there were few chances of training political skills for adjustments of conflicting interests among various parties.

Conflicts between communities were frequently solved by physical power, instead of through cooperation and balancing different concepts. With a short history in modern political training it is difficult to have a federation of movements- Small groups fight each other as their interests collide, competing for ideological orthodoxy. This process is seen typically in the history of the Japanese left, which is also an expression of the emperor system.

Another element of the mental baggage which settled into Japanese society during the proeess of market economy growth after the war, is strong reliance on large, gigantic technology. During the past two decades, the economies of size have been very visible in many sectors of industry. Such concepts as "large is great" and "difficulties can be solved by money and technology if anything" became prevalent, specifically among the intellectuals. Faced now with a long, low economic growth period, anxiety for the future is spreading, and there is danger that military power will return to Japan along with narrow-minded nationalism. The choice of this road will lead again to the neglect of human rights.

The differences in background conditions between Japan and Western Europe have been argued for a long time and in many places, but it is sufficient for the movement to note the above points. Under these conditions Japanese industrial pollution occurred, and went to the extremes of irreversible damage to human life.

3. Responses of the Movements to Governmental Policies

For the moment, the central government is in the hands of the very stable conservative party, which is under the control of industrial capital. Opponents are weak and divided, so the only way for local movements to impact policy is through the negative participation of resistance. There are several cases of considerable change wrought in development plans through such resistance, but the most dramatic case is located in the west of Honshu and the north of Kyushu islands, the so-called Suhonada project, where 50,400 hectares were pegged for a landfill industrial zone in an original plan prepared in the 1970s. However, a small minority movement of local people caused the plan to be delayed. It then faced changing economic conditions after the oil crisis, and the final result was only one oil fired power plant on 39 hectares of landfill, with the rest of the project being abandoned completely. If the total plan had been realized, the sea would be lost forever, and the excess industrial capacity would have been much greater than at present. Similar modifications or cancellations have been quite common in many places in Japan. The delay of siting plans for nuclear power stations avoided the construction of excess electricity supply capacity and associated increased production costs.

The failure of Chisso management relative to the Minamata Disease changed industrial policy in Japan. Even after the discovery of the disease, the company was regarded as one of the most successful cases of domestica-

tion of Western technology and expansion of production facilities. Now the company has greatly declined, and is barely surviving. This fact has become a strong warning to industrial management, not only in Japan, but also in the entire world, requiring attention to be paid to environmental pollution problems. Even if short term profits are promised by ignoring pollution, the company has proven a long term failure, due to its inability to deal with problems of the environment. Likewise, anti-pollution movements have caused stalemates in the polluting materials industries in Japan, and investment shifts to other sectors having greater added value and less pollution generation. Some dozen pollution control laws were prepared and an institutional system was established in Japan as a result of victims' movements. These laws and institutional systems were prepared as a kind of pressure safety valve. Although their effectiveness is not sufficient, they still have some effect in controlling the behaviour of industry. But the effectiveness of these laws and institutions is always based upon grassroots movement support, and it is an important fact that a move to loosen control over industry has occurred in the late 1970s along with the decline of many of movements.

In recent years there have been more movement proposals for alternatives in resisting centrally determined projects.

In sewage projects, the Ministry of Construction, insists on huge, unreasonably centralized systems. Movement proposals for small or middle sized, decentralized systems support the policy of the Ministry of Finance, which has started to doubt the effectiveness of public investment in recent years, and this has caused some changes in government policy, But the true aim of Ministry of Construction Policy with respect to the large scaule sewage plants is not technical feasibility for water pollution control, but political profit for the Tanaka faction which is trying to control Japanese politics through the distribution of public finance, and it is anticipated that change will not occur easily.

In local governments, especially at the village level, the power monopoly of the conservative party is not always stable, and sometimes there are power shifts. Thus, it could be said that there are more possibilities for realizing alternative policies proposed by local movements. Where political power is concentrated to excess in the central Government, and when the participation of the people is neglected as in Japan, there is greater chance for certain kinds of change. An example of this is the local government in Okinawa incorporating the anti-military base and anti-war movements. For the realization of this kind of change it is essential that local movements do not expect too much from left side political professionalism, and to prepare original and flexible policies on their own. Also it is necessary to accumulate more study and experience in real politics, to such a degree as to control political parties. Other essential study relates to the natural system and its ecologically synergistic structures. Probably we must also reevaluate the traditional value system, while at the same time avoiding an easy return to the exclusive and oppressive agrarian concepts as an escape.

4. Future Movement Directions

The grassroots movements are new political phenomena difficult to grasp within present political contexts. This is understood by the ruling classes in Japan, and recently movement knowledge was used successfully by a grassroots conservative group to topple a progressive local government in Musashino City in the local elections. There are rumors in the central government that a political party act is in the process of preparation, that will prevent the formation of non-partisan components such as local movements in order to limit political participation to within the present political system. If the political party act model is of the West German variety, surely it will be very difficult to form a new political party of the green coalition variety.

Whether Japanese grassroots movements can form political coalitions of the green federation or ecologist type, keeping local characteristics intact, and having a common target, is a very difficult question for the moment. The personal judgement of the author is that there is a fifty per cent chance of this happening within the next ten years. There are several national tasks for the political arena, such as decentralization of political decision making, increasing citizen participation, theoretical development of local autonomy, introduction of an organic concept of nature into real politics, review and reevaluation of the traditional value system, all of which are necessary for present day Japan. It is difficult to solve these problems with the existing combination of political parties, and there is widespread expectation that a new, fresh political force will achieve such tasks. A gradual decrease in the voting rate for present political parties is a clear sign of such expectations.

On the other hand, where narrow collectivism is widespread and reproduced in day-to-day formal education, the formation of a coalition of local movements will not be an easy task for Japan. All normal efforts to form such coalitions for the Upper House elections of 1977, 80 and 83 failed. Still the old concept of an exclusive and oppressive agrarian community remains in our daily lives, as is seen in the strong collectivism common to all Japanese. There is little experience with cooperation between different opinions and disciplines. Unfortunately, anarchism did not settle into the political ideology of Japanese backgrounds. There are some moves among Japanese ecology movements to form unifying pseudo-religious concepts to explain everything in excessively simple terms, hindering thereby coalitions between a wide variety of movements. There is also resistance common to the existing political parties with respect to the formation of political forces out of their own control.

If there is any possibility of an ecological political group of the Western European variety in Iapan, the most probable route would be to have a few local elections with many candidates in local councils, then a coalition of movements working as support groups for such candidates. The necessary condition for such a coalition is the accumulation of political experience through actual movement in the 1980s. Over against the previous political

directions of high economic growth and the formation of national capitalism in industrial Japan, the grassroots movements must propose an alternative, a realistic political direction. Even if small, the formation of such alternative orientations in a clearly visible way will show other people that there is another key to success.

It is necessary for local Japanese movements to have an international sense, avoiding the self-complacency inherent in an island country, and to participate in a politics that is greatly interdependent and internationalized. Already Japan is a superpower in the politico-economic structure of Asia, and behaving as one center in the dependency relationships existing between centers and peripheries world wide. This relationship is part of the daily life of the common Japanese person, and we are strongly tied to the third world through imports and consumption. Japanese movements should see and realize this fact, that any movement actions influence the relationships between Japan and Asia. Most local movements start from daily life problems, but as the movements progress, there will be reflection on the wasteful lifestyles of Japan and a seeking after a more ecologically sound alternative for the future. Many anti-pollution movements, consumers movements and cooperative movements are showing increased interest in organic farming, recycling of resources, and other action-oriented programs. If this tendency continues, providing a change in consumption patterns for Japan, it will affect the dependency relationships between Japan and other Asian countries, thereby decreasing the dominance of Japan in the area. On the other hand, any independence efforts in other Asian countries will affect Japan. If present wasteful lifestyles continue and militarization increases, the corrupt structures presently instituted, with Japan supporting the ruling classes of Asia, will be fixed and strengthened, and the corruption in Japan and Asia will continue to grow together hand in hand. Just like the Japanese industrial pollution that went on in the countryside unnoticed in the 1960s, to an extent that created irreversible damage, so the progress of dependency and corruption in Asia will damage Japan seriously over the longterm, and political corruption, like the dominance of the Tanaka faction in Japanese politics, will continue. This inter-relationship between Japan and Asia, and the meaning of the modern Japanese lifestyle relative to conservation of world resources, should be understood by local Japanese grassroots movements. Surely more attention should be paid to the international relationships between grassroots movements in developing countries.

Even if the task of forming a coalition of local movements is not soon achieved, still local movements will occur in many places as endless expressions of the political contradictions inherent in Japan. The ruling classes of Japan have no effective prospectus for ending the contradictions. The local movements will provide political training for the common citizen, and diversify Japanese society. If complete destruction through nuclear war does not occur, then as anti-pollution movements worked as the only

force preventing the complete destruction of the Japanese environment, so will the grassroots movements work to prevent power from inducing political suicide as the militarization of Japan progresses.

Epilogue

As has been analyzed previously, the role of ideas for the anti-pollution movement is to provide a framework of theoretical concepts to support the grassroots movement and also to encourage it to move in a desirable direction. From this viewpoint the Japanese intellectuals potentially had a great role to play in these two decades in making a tight linkage between theoretical activities and dissident movements. However, leaders of the intellectuals have worked with dominant groups, influencing the anti-pollution movement by making it more difficult to voice dissent. □

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ALL RELIGIONS ARE EQUALLY IMPERFECT

FOR ME THE DIFFERENT RELIGIONS ARE BEAUTIFUL FLOWERS FROM THE SAME GARDEN . . . THEREFORE THEY ARE EQUALLY TRUE, THOUGH BEING RECEIVED AND INTERPRETED THROUGH HUMAN INSTRUMENTS, EQUALLY IMPERFECT.

MAHATMA GANDHI

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Information Flow in Agriculture: The Major Interest Groups and their Interactions

CLYDE MANWELL and C. M. ANN BAKER

Our object is to look for generalities concerning the ways in which information flow is biased by *vested interests*, diffrent individuals or organisations seeking to maximise power, profits and prestige at the expense of others. This first paper deals with six major interest groups which influence the diffusion of knowledge concerning agricultural affairs. A few short case histories are included; because of the limitations on space, we have favoured case histories which illustrate a variety of important problems, especially subjects which rarely receive critical comment. Indeed, that is perhaps the most important problem various vested interests control published comment on agricultural matters to such an extent that analyses which are critical of those vested interests very rarely appear in print (and, when they do get published, it is often in journals or books which are limited in their distribution). The second and third papers use two very different collections of case histories to illustrate the multiplicity of levels of suppression; the case history collections being chosen to provide balance among First, Second and Third World agricultural problems, as well as balance among problems of the recent past, the present, and the immediate future.

Starting with the domestication of plants and animals, agriculture played the predominant role in the rise of civilisations and in trade between people, tribes and nations. Agriculture is the applied science *par excellence*, not only vital for human survival but with ramifications throughout the last few thousand years of human history and culture.

As population pressures required more productivity from the land, agriculture became increasingly diversified. Yield increases required *information*, whether it was the flow of information among farmers, choosing the best crops for particular environments and markets, or the genetic information coded in new varieties of cereals or livestock, genetic information that expressed itself in faster growth rates or better disease resistance.

Despite the overwhelming importance of the subject, there exists to our

knowledge no overall review that examines the major interest groups in modern agriculture and how those interest groups cooperate and compete in biasing the flow of information, i.e., in suppression of alternative viewpoints.[1] There is, however, a rich vein of case histories from which one can attempt an overall synthesis.

One of the best case histories to indicate the nature of agricultural misinformation is that written by Alan Wood.[2] a former 'public relations' officer for the ill-fated Groundnuts Scheme in Africa. This was to be a massive agricultural development project, centred on groundnuts (peanuts) as a cash crop (largely as a source of vegetable oil and seed residue, the latter a cake often used in livestock feed). The Groundnuts Scheme involved Unilever, a British-based multinational, as well as agencies of the governments of Great Britain and the Australian state of Queensland. The failure of the Groundnuts Scheme resulted in the waste of at least £100,000,000 and also caused extensive damage to existing agriculture. The former 'public relations' officer reveals how he became disenchanted with his task as those in charge of the Groundnuts Scheme ignored the warnings from specialists knowledgable of the problems of tropical agriculture. Finally, he reveals how the authorities in the government used *disinformation*, deliberately falsified information, in an attempt to cover-up for the succession of blunders.

Not every case is as clear-cut as the Groundnuts Scheme. Opinions vary greatly as to success or failure, to good versus bad information, on the Green Revolution, in part because of different experiences at different times in different countries with different crops.

Before discussing each of the major interest groups, it is important to keep in mind certain of the changes which have occurred, largely in the last fifty years. In response to agricultural diversification many new small specialist firms were formed. However, there has also been a countervailing trend evident in the creation of large monopolies, including the merging of the multitude of specialist enterprises into large integrated systems. As an example of vertical integration, a single company may control much of the breeding, raising, and slaughtering of pigs, followed by the processing and distribution of pig meat and other porcine parts: "everything utilised except the squeal." Besides such vertical integration based on one or a few species of livestock, there has also been a parallel trend to monopolies based on particular scientific specialities, e g., national or transnational firms controlling the production of hybrid seed and also hybrid strains of livestock. This merging of breeding firms and related enterprises is centred on the science of genetics but includes also some intersection with other disciplines such as nutrition, biochemistry, reproductive physiology, and animal behaviour.

Fission from the requirement of niche specialisation, versus fusion from takeovers and mergers based on various types of integration, are two contradictory trends which mean that, inevitably, the following discussion of six

major interest groups is an oversimplification. Furthermore, although some of the same trends are evident in agricultural development in both capitalist and socialist countries, there are also some important differences, and these differences are not just the obviovs one: the difference in the relative role of the state.

1. Breeding Firms

Breeders supply seed or livestock. In the latter case the firm sells stud animals, or, with the development of the technology of artificial insemination (largely over the last fifty years), semen.

More recently some animal breeding firms have spread their technological expertise to include embryo transfer and other types of 'reproductive engineering.' Certain major plant and animal breeding companies are investing heavily in 'genetic engineering.' These more recent developments illustrate the role of state organisations, even in First World (capitalist) countries: most of the research effort is subsidised by the taxpayer, for most of the research and even much of the development involved in both reproductive engineering and genetic engineering takes place in publicly funded universities and in state agricultural research organisations. This is partly a continuation of the nineteenth and early twentieth century practices where much plant and animal breeding in the U.S.A. took place in government operated research institutes and on university campuses—although many important developments were made by private plant and animal breeders.

At present major areas of controversy, balancing public versus private interest, include the plant varietal rights legislation and the patenting of life forms modified by genetic engineering—examples of how the legal system is used to effect further monopolisation.[3] This will be the focus for future conflict : First World breeding firms are using genetic material which in many instances was originally developed by unknown domesticators and breeders in Third World countries. In 1984 almost two-thirds of the wheat was based on strains which include in their genetic composition the dwarfing genes originally discovered in Asia.[4] Thanks to plant varietal rights legislation, developing countries will have to pay even more for what was originally their own genetic material.

In addition, there is another problem: the very success of certain genetic strains means the loss of genetic diversity. Changes in diseases, pests or market requirements demand new genetic material. The lack of interest in rare breeds and varieties (until very recantly) has meant that much valuable genetic information has already been lost.

2. Chemical Companies

The supplementation of natural fertilisers with other sources of nitrogen, other bulk elements, minor elements and trace elements is quite an old process. So too is the use of a few chemicals against pests. However, most of the chemicalisation of agriculture, notably the widespread usage of synthe-

tic pesticides and herbicides, is a post-World War II phenomenon. At present a small number of First World-based transnationals supply much of the First and Third World's fertilisers, pesticides, herbicides and drugs.

Additional requirements for chemicals have come as a result of the intensification of livestock production. First, there are growth stimulants, which are often synthetic hormones or hormone analogues. (The most recent developments include drugs which suppress fat synthesis and increase protein synthesis: repartitioning agents.) Second, there are antibiotics. Some of these give a modest increase in growth rate (probably by virtue of shifting the species composition of the gut bacteria, or by compensating for adverse effects from poor animal husbandry). Increasingly, antibiotics have become necessary to combat the variety of infectious diseases whose spread is facilitated by the stress which accompanies intensive husbandry ('factory farming') of livestock. Besides infectious diseases caused by microorganisms, there are also problems arising from internal parasites (usually roundworms or tapeworms, against which vermicides or antihelminthics are used), and from external parasites (mainly an assortment of mites, ticks and other arthropods, against which are used many of the same pesticides as are used against insects which are vectors of human diseases or are crop pests).

Chemicalisation of agriculture has generated a number of highly controversial issues, with the chemical companies (and subservient government departments, i.e , 'captured bureaucracies') being powerful vested interests (reviewed more fully in the second paper). Much of the controversy rests on two separate issues :

First, what is *the risk to non-target organisms* (including humans) ? There are questions of acute toxicity versus chronic toxicity ; the latter, the result of the gradual accumulation of low doses being difficult to prove with certainty because there is often a long lag time between cause and effect. Further complications include the possibilities of food chain accumulation (a form of 'bioconcentration'; a consequence of relatively low rates of degradation combined with a high affinity for certain biological depots).

Second, what is *the efficacy of the chemical treatment*, especially in comparison with alternative methods of pest or disease control ? Does the cost of chemical control pay for itself in increased production ? It is here that information flow becomes subjected to a variety of pressures. There are several different paradigms of pest control and eradication. Rarely is the *economic* analysis even reasonably complete.

3. Mechanisation Monopolies

The most conspicuous difference between First and Third World agriculture is the relative importance of large manufacturing firms in the former. Power for First World agriculture comes almost entirely from fossil fuels rather than the muscles of the draught ox and horse. Increasingly, in Third World countries mechanisation now plays an important role.

Thus, mechanisation has, if to varying extents, spread into almost every

facet of agriculture, from irrigattion pumps to combine harvesters. Most of the emphasis is on increased productivity through saving labour costs. Computerisation and automation are only the most recent innovations in the mechanisation trend, with heavy investments being made now in the research and development needed for automated abbatoirs and robot sheep-shearing.

Few will argue against the value of mechanisation in increasing agricultural output per labour unit. But, few will also examine the social costs that arise from the rapid displacement of labour by agricultural (or other) mechanisation and automation.

It is disturbing that there are so few studies directed at the real versus imaginary increases in efficiency from inappropriate mechanisation even in First World countries. One Australian report by an independent agricultural economist claimed that "machinery overload" is a serious problem, causing about a 50% decline in the average rate of return for capital invested per hectare.[5]

For Third World countries the situation has become especially critical. Replacement of draught animals by tractors often means increased dependence on imported sources of energy and mechanical expertise. it is difficult to maintain a reasonable balance between the utilisation of draught animals and mechanisation because the latter becomes a prestige factor, encouraging other farmers to adopt the new technologies, even when they bring unanticipated difficulties. Thus, some agriculture advisors with first hand experience of Third World agriculture urge that draught oxen still have an important role and are not subject to the problems of maintenance and repair in a difficult environment.[6]

Perhaps the best example of First World bias in information flow concerning Third World agriculture is that provided by the Ford Foundation in dismissing India's sacred cows as "useless."[7] Although the Ford Foundation's opinion became important in the American government's attitude toward foreign aid to India, it remained for an American anthropologist, Marvin Harris, to point out a few simple facts of life: the sacred cows produce the bullocks that are a major source of power in Indian agriculture, power for ploughing, power for milling grain, and power for transporting agricultural products. Farmers have few energy costs because the cows and bullocks largely feed on crop stubble and roadside grazing. Cattle dung is important both as a fuel and fertiliser.

The critical point, however, is that the Ford Foundation is a vested interest. The Ford Foundation obtained its large founding grant from the profits of the Ford Motor Company. Given the role of the motor vehicle as the "sacred cow" of American culture, it is not too surprising that the Ford Foundation's experts were indifferent to, if not ignorant of, the roles of various bovine animals in Indian agriculture. As a vested interest favouring mechanisation and opposed to competition from draught animals, Ford's position is obvious.

What is especially damaging about the Ford Foundation's error is that

it prevents a critical analysis of the role of draught bovines, together with suggestions for improvement. For example, Indian favouritism for 'sacred cows" means that inadequate attention is given to the water buffalo, although this species is the major plough beast in the wetter parts of India and is also the major source of milk and ghee.[8]

4. Financial Institutions

The very nature of many types of agricultural production means that outputs (which the farmer can sell) often come long after many of the inputs must be paid for. This has facilitated the emergence of a variety of systems of indebtedness, to pay for the inputs while waiting to reap the benefits from the harvest. The costs of chemicalisation and mechanisation often greatly exacerbate indebtedness.

The borrowing of money to finance agriculture runs the gamut of scale. At the most micro level there is the individual farmer, who may be confronted with usurious interest rates charged by the village moneylender. (Or, even worse, there are the sharecroppers who must repay loans with most of their harvest.) At the most macro level there are the multimillion dollar development projects financed by government borrowing, often from consortia of banking and investment companies, or special international financial institutions, e.g., the World Bank.

The problems arising from borrowed money in agriculture have been a major theme for many writers, usually novelists or economists. However, there is an almost total lack of an appreciation of the problems of rural indebtedness in the environmental literature. A welcome exception to that statement is the series of articles which appeared in 1985 and 1986 in *The Ecologist*. articles dealing with the role of the World Bank and various government agencies in financing the Indonesian transmigration programme and the Amazon basin development.[9]

In some countries financial institutions exert considerable influence over information flow, including even the specific direction of agricultural research. In Australia the only major non-governmental organization financing agricultural research is the Rural Credits Bank. Such financial institutions do not favour critical research. That may well account for the fact that the financial crisis on Australian farms was almost totally ignored by academic researchers specialising in rural problems. Banks, the government and academics all combined to favour increased borrowing to finance farm take overs and a not inconsiderable amount of "machinery overload." There was even a motto: "Get big or get out"—and the only signs of dissent were a few journalists.[10] Taxation policies are often a major encouragement for indebtedness in First World agriculture. Distortion of information flow has become especially evident in recent press releases from the Australian Bureau of Agricultural Economics, which has attempted to play down the rural crisis, although actually admitting that 25% of all specialist wheat producers are now carrying debt burdens of $ 185,000 or more per property and that

many of these farms will fail unless there is some improvement in world commodity prices for wheat.[11]

5. Marketing Boards and Companies

Selling, storing, and transporting agricultural outputs has become the province of a variety of specialist companies, farmers cooperatives, and government organisations. The first mentioned category have largely become taken over by giant conglomerates which deal not only in agricultural outputs but also agricultural inputs, land, and often quite diverse enterprises having little or no direct relation to agriculture. The second and third categories are often termed *marketing boards*, although their functions are much more diverse than the usual definition of marketing (finding the right product for the right market),

Many of the state agricultural agencies in First and Third World countries are QANGOs (=Quasi-Autonomous National Government Organisations). These statutory bodies live in a limbo between public and private enterprise. The agricultural qangos usually deal with one or a few species of crop plant or livestock, or even a single product: Egg Board, Pig Industry Development Authority, Wool Corporation, Potato Board, Meat and Livestock Commission etc.

The marketing boards and companies, together with affiliated transport, storage and inspection agencies, have been almost completely neglected in critical scholarship. Yet, the marketing boards and companies have become a potent force on the agricultural scene. These bodies set the prices paid to the farmer. Governments usually attempt to keep food prices low—sometimes unrealistically low, thereby facilitating the drift from the land and urban dominance. The qangos have considerable legal powers invested in their statutory organisation, as well as are often less accountable for abuse of power than other public or private institutions.

In the course of our own research (on biochemical and population genetics of farm animals) we have met many members of the rural community who have, quite spontaneously, told us about their difficulties with marketing boards and other state-run instrumentalities. One short case history will exemplify this *bureaucratic terrorism*. An enterprising dairy farmer attempted to specialise by providing shops and customers with fresh milk from Jersey cows, This breed is well known for its high quality butter-fat and protein-rich milk). Local milk marketing companies, combined with the Department of Agriculture, apparently did not like the competition. The legal procedure was to force the enterprising dairy farmer to make many expensive alterations supposedly on grounds of public health. The irony is that, after forcing the farmer out of business, his place was taken over and used as a semi-intensive piggery—a far more significant public health problem but one that does not pose a challenge to agribusiness.

The lack of accountability of marketing boards and companies has had grievous consequences for Australian agriculture. In the 1980s a series of

scandals have been revealed in the popular media; unfortunately, most of the journalists involved in these exposes did not know enough background agricultural information. Accordingly, the public was not informed of the full ramifications.

The Australian Dairy Corporation lost milk sales in Indonesia (and elsewhere) through its profligate use of commissions to friends, commissions paid at three times the normally accepted rate.[12] Against the Victorian Dairy Corporation the allegations have included outright corruption and gross misconduct.[13]

Both the New South Wales Grain Handling Authority and the Australian Wheatgrowers Federation (which then changed its name to the Grains Council of Australia) were involved in an estimated $ 100,000,000 loss involving transport failures, poor storage practices, and 'sweetheart' pricing deals.[14] Overpricing and inefficiency have also been shown for the Victorian Grain Elevators Board in one of the very few academic studies of the practices of agricultural qangos.[15]

Especially damaging have been product substitulion cases. For example, the New South Wales Grain Handling Authority was held responsible for inadequate supervision which allowed prime quality wheat to be diluted with inferior grain.[16] Secret correspondence was leaked which revealed that the Australian Wool Corporation had received some 2,900 separate complaints about contaminants in wool bales, ranging from rank pieces of dead sheep to pornographic magazines.[17] (Such material can ruin expensive automated machinery involved in processing wool).

The greatest national (and international) notoriety, however, has been taken by a series of meat substitution scandals, which have lost at least $A 1,000,000,000 in export sales—not to mention a marked decline in the consumption of beef within Australia (as customers suspect, sometimes rightly, that their meat pies and beefburgers are adulterated with kangaroo, horse, donkey, goat and rabbit). Meat substitution is not just a matter of gourmet tastes, as some apologists for the series of scandals have claimed; substitution with Australian possum meat can be a source of toxoplasmosis in man, a disease which causes brain damage and blindness in some people.[18]

The meat substitution scandals have been a series of affairs, some independent of each other, some involving the same parties—with the federal Meat Inspection Division (within the Ministry of Primary Industry) having been revealed as having a singularly unsavoury role.[19] After a Royal Commission, a spokesman for the federal government's Department of Primary Industry actually admitted that the Meat Inspection Division was "inefficient, costly, poorly managed, over-staffed and in some respects corrupt."[20]

The Royal Commission into the Australian Meat Industry was presided over by Justice A.E. Woodward. The Royal Commission produced evidence of extensive malpractice: ".. forgery was widespread.... One of the most serious and disturbing matters to emerge from the Royal Commission's inquiries has been the level of corruption and abuse of power among govern-

ment officials".[21] Yet, after the Royal Commission the government dropped all the criminal charges; corrupt public servants were not even sacked, although some disciplinary measures were taken against 19 meat inspectors.

An interesting aspect of suppression emerges from carefully checking the opinions given by politicians on different occasions. Bert Kelly is a former member of the Federal Parliament who writes many articles in the Packer and Murdoch press (and also in the Adelaide Stock Journal), often using the pseudonym "Modest Farmer". Bert Kelly's opinions are those of big agribusiness, advocacy of low tariffs, and strong opposition against trade unions. In a number of ways Bert Kelly can be considered a founding father of Australia's New Right.

In a newspaper column Bert Kelly strongly protests "the bribery and corruption rife in meat inspection."[22]

A somewhat different attitude is revealed in a copy of Bert Kelly's diary records, quoted in the Royal Commission report :

> "I went to Melbourne for the day to present meat report to the Minister (of Primary Industry), Peter Nixon. It was worth it because it gave me the chance to tell him a few of the notes that we could not put in the report, such as the bribery and blackmail which is so prevalent in the meat inspection game.

Now, why couldn't a Member of Parliament, supposedly representing an agricultural constituency, put such serious charges in writing in a government report?

But, a third quotation suggests that Bert Kelly really did not think "the bribery and blackmail" was important. In attempting to minimise the entire meat substitution debacle, Malcolm Fraser, then Prime Minister of Australia, quoted another opinion by Bert Kelly, given in evidence before the Royal Commission and not reported by the media:

> "We were much more interested in the problems of administration and having (meat) inspectors available at the right time and at the right place than we were, at that time, about the bribery and corruption. That was a secondary matter to us. Getting the (administrative) machinery to construct it to work well was our first requirement."

Malcolm Fraser used other tactics to minimise the significance of the malpractice—including suppressing informed parliamentary debate by the simple (if discourteous) tactic of not providing his parliamentary colleagues with copies of the Royal Commission report before it was debated.[23]

However, Malcolm Fraser's incorporation of Bert Kelly's quotation, in full apparent approval, did bring some unanswered questions from Bill Hayden:[24]

> "Does the Prime Minister recall that in fact those findings (of the Royal Commission) related to matters described as bribery, blackmail and abuse of power? In view of that will he explain to the House how he comes to regard bribery, blackmail and abuse of power as trivial matters?"

Unfortunately, none of the politicians, or the journalists describing the meat substitution scandals, knew enough science to question some of the other suppressive manoeuvres. The failure to detect the meat substitution for years was excused as the result of the lack of adequate laboratory techniques.

We were surprised that such an excuse would be offered when suitable laboratory techniques had been available since the 1960s. Thus, we inserted a new 'meat substitution racket' practical in a third year Zoology course (in Comparative Biochemistry and Pollution). After just one day's work, students who were beginners in the use of electrophoresis (a method for separating molecules on the basis of differences in charge, size and other properties) could distinguish mixtures involving combinations of beef, sheep, goat, two species of kangaroo, rabbit and rat. Several Australian research funding agencies, including some handled by qangos in the Department of Primary Industry, as well as the J.S. Davies bequest handled by the Waite Agricultural Research Institute of the University of Adelaide, refused to support such work,[25]

Such suppression protects the incompetent and the corrupt—and it has damaged badly the beef export industry, one of the most enterprising groups in Australia. It is important to realise that the agricultural qangos, whose performance has been found to be so unsatisfactory, are the major source of research grants in Australia so far as agricultural studies are concerned. In addition, most agricultural scientists are either employed in government laboratories answerable to these qangos, or are dependent upon these qangos for research funding even though their salary is paid by educational institutions. Not too surprisingly, few Australian scientists dare dissent in matters of agricultural policy.

"Those that ignore their history are condemned to repeat it": the beef substitution debacle exemplifies well the price paid for suppression. The failure to prosecute the large number of individuals revealed by the Royal Commission in 1982 as indulging in fraud, bribery, blackmail, theft and other types of inappropriate behaviour, combined with the cover-up by promulgating misinformation (or disinformation ?) about the availability of techniques to detect meat substitution, has meant that the malpractice continues—and continues to harm a vital export industry. In 1986 the *National Farmer* revealed that the meat substitution racket still occurred; not only government agencies but also a number of private firms have been involved. In the present extremely competitive agricultural commodity market, the failure of Australian quality control (even though the actual percentage of adulterated products is low) has forced many overseas buyers in the direction of American or 'Common Market' (EEC) exports. The very criminalisation of parts of the Australian Department of Primary Industry and some private firms means that it is possible for foreign vested interests to sabotage Australian exports.

There are a number of agencies which specialise in the flow of information concerning agricultural affairs. Some of these information services are located entirely with in the organisations dealt with in previous sections. Most firms and all government agencies have 'public relations' specialists or 'information officers'; all too often their job is to fool the public.

Other information agencies influencing agriculture are part of separate societal institutions, e.g., media, libraries, and educational organisations. Still other information agencies involved in agriculture are either small independent bodies, or specialist government sections. dealing with data (e.g. Bureau of Agricultural Economics; Commonwealth Bureaux publishing abstracts of journal aritcles, government reports and some popular articles, compiled into regular issues of *Animal Breeding Abstracts, Plant Breeding Abstracts* etc.

Of critical importance are the agricultural research institutes and the universities (with their schools of agriculture), for these information agencies play the key role in the discovery, integration and dissemination of such of the knowledge at the forefront of agricultural research. Higher education plays an additional, and unique, role in that it provides *certification* awarding degrees for many of the professional people employed in agriculture.

Of special significance in the dissemination of knowledge are the *advisory officers* or (*agricultural extension officers)*, for these individuals bridge the gap between theory and application. The advisory officers serve as a two-way bridge, bringing new ideas and techniques from one farmer to another. The advisory officers also are often the first to alert agricultural research institutes about new problems encountered by farmers, e.g. new pests or diseases, production difficulties, changing market requirements etc.

A recent trend in some Western countries has been to downgrade or eliminate agricultural advisory services. The resulting information gap has becn quickly filled by vested interests : notably private firms renaming their sales people as 'advisory officers' and encouraging farmers to buy more pesticides or bigger tractors.

Accordingly, at present there is an urgent need to evolve countervailing public and private groups of professional advisors, specialists in *critical agricultural science*, who can give farmers and breeders *independent* opinions, free from both commercial pressures and bureaucratic mismanagement. All too often government agencies, notably departments of agriculture, become 'captured bureaucracies', for more responsive to the wishes of political ideologues of agribusiness firms than to the problems of farmers and consumers.

The multiplicity of centres for the generation and distribution of agricultural information means that there is some degre of competition and contradiction. In particular, there are conflicts which arises between the values (and self-interests) of companies, governmental bureaucracies, and professional specialists. For example, consider the professional versus practical interests in schools of agriculture. Many staff who are primarily

research motivated will seek appointments in schools of agriculture even though they are neither knowledgable of, nor even interested in, agricultural problems. Their primary career goals are the pursuit of pure research (or at least what they think of as pure research). Schools of agriculture often have far more money for research, as well as close connections with the agricultural quangoes which control most of the additional available research funds. Schools of agriculture often have much lighter teaching loads, thus allowing research motivated staff, or just idle staff, more free time. (At the University of Adelaide the Waite Agricultural Research Institute receives approximately 11% of the total university budget but does only 2-3% of the teaching).

Accordingly, one finds that there are surprising number of staff in some schools of agriculture who have neither practical agricultural experience nor any sympathy with rural problems. Academic snobbery, of course, is nothing new, but it creates special problems in the teaching and research related to applied sciences.

A further problem, which facilitates so much intellectual suppression, is the protege system which plays such an important role in obtaining access to jobs and to research funding. 'Operators' in administrative positions (usually by means of anonymous peer review) can favour friends, or disfavour dissenters. Despite ample evidence of administrative incompetence or dishonesty in a number of cases of intellectual suppression dealing with agricultural or environmental topics, in no single case was erring administrator held accountable within his institutions.[1]

Six major interest groups dominate the flow of information concerning agricultural affairs : breeding firms, chemical companies, mechanisation monopolies, financial institutions, marketing boards and companies, and information services.

Groups and individuals often attempt to maximise their power, prestige and profits. Such pursuit of self-interest requires that information flow to the public be controlled. Adverse criticism are suppressed. Flattering comments are widely distributed. These are the techniques of 'public relations' and are used by vested interests to prevent regulation and other forms of feedback on abuses.

Agribusiness interests effectively lobby politicians to pass legislation which enhances monopolistic dominance, e.g., plant varietal rights. Government regulatory agencies often become 'captured bureaucracies', cutting out competition. Sometimes, as revealed in the case histories of product substitution in Australia, these government agencies are inefficient and corrupt—and the attempt at cover-up to minimise the scandal becomes a further example of suppression.

Further bias in information flow arises from the fact that much agricultural research is funded by qangos (quasi-autonomous national government organisations), which are almost unaccountable for their actions. In addition, agricultural researchers are under pressure from the hierarchical

systems of many academic and scientific organisations, which dislike dissenting scholarship that is percieved as threatening to the reputations of indiuiduals at the top of the hierarchy or threatening to vested interests which are sources of funds and favours. A further complication is academic snobbery that looks down on useful research although is prepared to accept the financial largesse available in many schools of agriculture.

Agricultural advisory (or extension) workers play a vital role in information flow : they bring the findings of agricultural research to the farmer, they bring successful innovations made by one farmer to other farmers, and they communicate new agricultural problems to researchers and to the government. Reduction in the role of extension officers, often a result of government privatisation policies, has meant that private firms have used their salesmen to fill the information vacuum. The result has been that the rural community has spent too much money on inappropriate pesticides and on 'machinery overload'.

The action which is needed now is to create a *critical agricultural science*, where the different biasing forces are examined and evaluated. Agricultural research must be freed from both external meddling by powerful vested interests and internal pressure of careerism. There is a need for truly independent agricultural advisors, who can provide the rural community with a wide rage of information and ideas.

□

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Agricultural Suppression: Lysenkoism versus Pesticides

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There is a difficult problem in studying suppression. On one hand, examples chosen for review need to be sufficiently historical. There must be some passage of time to allow the reviewer perspective so that certain questions can be answered: In what ways was the flow of information biased? Was the information biased accidentally, i.e., misinformation? Was the information biased deliberately, i.e., disinformation? Who were the major actors in producing and controlling the flow of information? What were the issues for disagreement? What were the motives of the different vested interests? And, in particular, what damage was done as a result of suppression?

On the other hand, if the study of suppression is to be most useful, it must be able to deal, not just with past problems (with the enormous advantage of hindsight), but with present problems. The analysis should suggest means for effective action to keep the flow of information honest and accurate, to ensure that all affected parties play appropriate roles in the decision process.

We have chosen two different case history collections. The first case history is the rise and fall of Lysenko. This episode is completely finished. There is reasonable agreement about many of the details and the damage. Nevertheless, the case history itself has been subjected to serious Western bias as a result of differences in political ideology. Nearly all Western writing on Lysenko stresses the differences between capitalist and socialist science. Here we show the many similarities. This case history is especially valuable in revealing suppression at a higher level of anaylysis, literally, 'the suppression of suppression'.

The second case history collection concerns the chemicalisation of agriculture. Here we have a more complex situation, of both valuable improvements and serious side-effects. Here too we have the problems of dealing with a current controversy. Fortunately, sufficient time has elapsed from the earlier warnings by dissident scientists, warnings from the 1960s, to be able to evaluate some of the dissenters' warnings. Sufficient time has also elapsed to allow some estimate of the amount of damage done by

suppression.

The best known example of the adverse consequences of suppression of agricultural information is the Lysenko period in the U.S.S.R. Lysenko's rise to power began in the late 1930s. Total dominance was achieved by 1948 when Lysenko delivered his address *On the Situation in Biology* to the Lenin All-Union Academy of Agricultural Science—Lysenko's address having been personally annotated by Stalin. From 1948 to 1965 Lysenko reigned supreme—although contrary to the Western propagandistic picture there were some important dissenting challenges[1]—Lysenko's fall from power occurred when the damage was too obvious to hide or to excuse : the collapse of the virgin lands scheme, a massive agricultural debacle which also contributed to the decline and fall of Nikita Khrushchev and a change in the Soviet government.

There is an enormous literature on the Lysenko affair. Our own files include over two hundred references. Yet, we have been unable to find a satisfactory review which integrates all the important elements behind this affair and does it without ideological bias. Western writing about the Lysenko period is so suffused with smug satisfaction about the failures of Soviet communism as to be almost useless. The few Western Marxist writers either evade the topic completely or demonstrate their ignorance of both agriculture and the sociology of science. These writers fail to see the similarities between Lysenko and a number of Western elite scientists who have crept into positions of power. The two most useful references to the Lysenko period are the books by Zhores Medvedev[1] and David Joravsky[2]

The following points are made quickly in summarising the rise and fall of Trofim Denisovich Lysenko. We place relatively more emphasis on those aspects of the affair which have been given insufficient attention by Western writers.

Lysenko was more skilled in 'public relations' than in plant breeding of genetics. Even some of his critics acknowledged his ability to go to the farms and talk with (not talk down to) the peasants. At that time many Soviet scientists considered themselves part of the Soviet elite and rather above such egalitarian behaviour.

The U.S.S.R. has one of the most variable climates in the world. Before (and after) Lysenko it was typical for one harvest in three to be poor, or even a complete failure if the cold persisted too long. Famine was a regular occurrence before the 1918 Revolution. Famine occurred again with the liquidation of the kulaks during Stalin's regime, as well as with the catastrophic damage done by the German invasion during World War II. Accordingly, almost any charismatic figure who promised a solution that was in conformity to some extent with socialist practice stood a good chance of obtaining powerful political support. In that respect Lysenko was no different from any Western scientific 'operators' who have demonstrated their skill at wheedling large sums of money for research. Like Edward Teller (father of the hydrogen bomb and a leader in the lobbying for 'star

wars'), Lysenko went right to the top, receiving the backing of first Stalin and then Khrushchev.

Lysenko also had another advantage. He was a Ukrainian, a representative of one of the largest persecuted minorities in the U.S.S.R. Thus, Lysenko had a special value for Stalin, to show thas the Supreme Soviet was not prejudiced against Ukrainians.

The common Western explanation for the rise of Lysenko is that his emphasis on the inheritance of acquired characters provided a scientific (or pseudoscientific) justification for the Marxist philosophical emphasis on the social perfectability of humans. It is, however, difficult to find evidence for this facile interpretation.

One should be fair in judging Lysenko. During the period of his rise, the inheritance of acquired characters was at least a minor paradigm among some Western plant breeders, e.g., Luther Burbank. Furthermore, besides the large amount of evidence for nuclear inheritance (which Lysenko ignored, targetting those who accepted such evidence as Mendelists and Morganists), there was also considerable evidence for cytoplasmic inheritance, especially in plants. Thus, the inheritance of a number of plant characteristics did not conform to the simple Mendelian ratios. Many Western scientists went too far the other way, denying the legitimacy of cytoplasmic inheritance until in the 1960s, when it became possible to characterise the DNA of chloroplasts and mitochondria. Oversimplified extremism in science is by no means restricted only to Lysenko and his followers.

Lysenko's well-known polemic antipathy to nuclear inheritance was matched by a less well-known dislike of statistics.[1] Lysenko and his followers were unwilling to submit their claims to true scientific testing. Claims for increased yields were not subjected to biometrical analysis. From just sloppiness in the collection and treatment of agricultural data, some of Lysenko's followers progressed to the practice of some quite outrageous frauds, such as those detailed by Zhores Medvedev.[1]

Here again, however, Lysenko and followers are not unique. Antipathy to statistical analysis of data is still fairly common among Western biologists. It is not difficult to find examples of eminent Western biologists making strong claims on the basis of data which are not analysed statistically—and which, when the data are statistically tested by someone else, the claims are refuted; this is all part of the phenomenon of *disciplinary dogmatism*.[3] Many Western scientists of some stature feel that they can make *ex cathedra* pronouncements, as part of *the cult of the expert*, without subjecting those claims to rigorous testing—and, what is worse, some of these scientists resent it strongly when someone else does the tests and disputes their claims.

Although Joravsky's[2] book on the Lysenko affair is one of the most widely cited Western references concerning this topic, we have never seen any of the citers refer to one of Joravsky's major observations : The Stalinist purges were not directed solely at the supporters of orthodox genetics *but*

included a number of Lysenko's supporters. A major factor predisposing a researcher to being purged was association with foreign colleagues, especially British or American ones. Xenophobia was exacerbated by the 'Cold War' tensions and even before that period, the memories of British and American attempts to subvert the Russian Revolution.

A number of Soviet scientists publicly criticised Lysenko without suffering suppression or repression : this is "Prianishnikov Effect"[2] named for an eminent plant physiologist who repeatedly opposed Lysenko and kept his job as head of a major research institute. As Joravsky[2] points out, it was often the equivocators who aroused suspicion that were purged, not the outright open opponents. The case of Maria Yudina, a musician who publicly challenged Stalin and wrote a letter which colleagues called "suicidal", and whose career continued to prosper, also suggests that, at least at times, clear dissent was safer than equivocation.[4]

Why then didn't more Soviet scientists attempt to defend scientific standards in general and the science of genetics in particular ? Medvedev[1] gives a number of examples of where famous scientists toadied to Lysenko, especially after his election to academician status. Here too, however, we have a failing which is far from being restricted to Soviet science. Although there are occasional personal feuds, elite scientists are often very reluctant to criticise their peers. An interesting case is provided by William Broad and Nicholas Wade[5] in their book on fraudulent behaviour by Western scientists : W.D. McElroy was already a powerful figure in American science when he was exposed as having plagiarised a large portion of a less well-known colleague's review article on bioluminescence ; yet, McElroy's dominance was not dented and he continued as a major figure in the U.S. National Academy of Sciences and Director of the National Science Foundation. Sir Cyril Burt's career of fraudulence was not openly challenged by his eminent British colleagues—although he was not elected to the Royal Society.[6] The Burt example is particularly relevant to the Lysenko affair for two other reasons: Burt's scientific position on the 'nature-nurture' question was exactly the opposite of Lysenko ; Burt believed almost completely in the use of simple Mendelian patterns of genetics to explain complex behavioural phenomena, such as human intelligence and criminality; Lysenko believed largely in environmental determinism, taken to the extreme of the inheritance of acquired characters. Just as Lysenko's antipathy to genetics and statistics damaged Soviet agriculture and biological science, Sir Cyril Burt's fraudulence has had significant social effects on the British educational system.[6]

A key matter which has not been sufficiently explored by either Soviet or Western writers on the Lysenko affair is the interaction between Lysenko and N.I. Vavilov.

Vavilov is the Western writer's favourite example of the good Russian scientist who opposed Lysenko and thus died in a Siberian concentration camp. These facts are correct, but only part of a more complex situation.

Lysenko's rise was greatly facilitated by becoming Vavilov's protege. For several years Vavilov supported Lysenko—although Vavilov was generally regarded as a good enough scientist to see through the errors promulgated by Lysenko. (Vavilov is generally credited with formulating the concepts of centres of domestication and centres of diversification for crop plants. His research on plant breeding involved considerable study outside the U.S.S.R. and Vavilov had friendly relations with a number of eminent British scientists.)

Vavilov was an autocratic figure, and he cunningly operated to rise rapidly in the Soviet hierarchy, becoming the boss of over one hundred separate research laboratories. When Vavilov finally began to criticise Lysenko, it was too late. Vavilov was charged and convicted of spying for the British. Lysenko, ever the opportunist, took over Vavilov's position and soon became surrounded with the inevitable sycophants.

Ironically, it was the failure of the Russian Revolution to reform the intense hierarchical system of the universities and the research institutes that made it possible for Lysenko to take over. Soviet genetics had to hibernate for nearly twenty years. Before Lysenko the U.S.S.R. had risen to an enviable position in terms of the status of its research in genetics. After Lysenko's takeover some excellent genetic research continued in the U.S.S.R., but it was largely hidden in research institutes which did not include genetics in their title.[1] Within a year of the fall of Lysenko, the U.S.S.R. had three new genetics journals with many papers of a high standard.[7] Nevertheless, the damage was considerable, especially for agricultural science and its applications.

The Rise and Decline of Pesticides

The era of the heavy use of pesticides (including herbicides) is almost entirely from the late 1940s. There have been two main uses for pesticides: reduction of those human diseases carried by arthropod vectors, and reduction of pests(largely insects and some other arthropods) and weeds in crops. DDT is generally credited with having saved thousands of lives at the end of World War II as a result of itse effectiveness against lice and other insect vectors of human disease. At first, insecticides allowed the eradication of malaria in many parts of the world.

A few scientists issued warnings. Attention was drawn to the fact that some pests had already evolved resistance against some of the pre-World War II insecticides, e.g., some populations of codlin moth had become resistant to lead arsenate. Thus, it was predicted that these new wonder chemicals would soon lose their effectiveness, simply as the inevitable consequence of Darwin's (and Wallace's) theory of evolution by natural selection. It was also warned that the destruction of non-target organisms could remove useful predators and parasites, therby ultimately increasing pest problems for the future.

However, it was not until the early 1960s that a range of warnings started to reach the public. Although a number of researchers and writers should be given credit, the fact is that it was largely the efforts of Rachel Carson which

were effective. The publication of her book *Silent Spring* in 1962 is usually considered the seminal event. Rachel Carson provided the public with a readable account of research giving the first indications of serious ecological damage by pesticides, notably cases of the build-up of pesticide residues in food chains, a type of bioaccumulation. where pesticide levels become hundreds or thousands-fold in their concentration. Thus, animals at the top of the food chain soon accumulate toxic levels of pesticides (or pesticide residues). Part of Rachel Carson's success is that she pointed out the obvious: a few years after heavy use of pesticides certain common species had almost disappeared, the 'silent spring' for many insect-eating birds.

The response to these criticisms of excessive and inappropriate pesticide use has been a level of suppression which, while not as physically vicious as that which accompanied Lysenkoism in the U.S.S.R., was at least as pervasive (and probably more effective).

The vested interests associated with the chemical industry were caught off guard by Rachel Carson's *Silent Spring*, but did mobilise for an effective counterattaek.[8] Rachel Carson was a difficult target. She had no academic position from which she could be fired—and she was dying of cancer. Nevertheless, she was subjected to considerable personal abuse and to denigration of her scholarly qualifications. (Rachel Carson was sometimes described as a journalist, probably because of the fact that some of her books first appeared in the *New Yorker*: her qualifications in fisheries biology and ecology, including some scientific publications, are almost never mentioned.) There were even allegations of a Communist plot to sabotage American agriculture by undermining public confidence in pesticides.

Other conservationists and ecologists who took up the pesticide issue were more vulnerable. Richard Rudd wrote his excellent book *Pesticides and the Living Landscape* at around the same time as Rachel Carson wrote *Silent Spring*—but Rudd's book only appeared in print two years later, in 1964. A commercial publisher was scared off Rudd's manuscript despite backing from a major American conservation organisation. Rudd's book was eventually published by the University of Wisconsin Press—with the manuscript having been sent out to no less than 18 different scientists for "peer reviewing' as a result of repeated attempts by the pro-pesticide lobby to block publication on the grounds of alleged errors.[8] In reflecting on this totally unwarranted delay in publication, Richard Rudd provides a valuable insight :

> "The trouble with my own efforts is the same as with the upset following *Silent Spring*: Challenge to a basic, well-entrenched system—far more extensive and profound than most people comprehend—is simply not done. It is particularly inacceptable (*sic*) from someone 'inside'. I had worked on vertebrate pest control for five years and was a member of the state Agricultural Experiment Station. I was dismissed without notice or cause given from the Experiment Station in 1964."

Rudd also had his University job threatened and his promotion blocked.[8] The important point in explaining the reaction (or overreaction) is that Rudd had done an 'inside job'. The pro-pesticide lobby could attempt to discredit Rachel Carson as lacking expertise in pest control; but, Rudd was a professional in that very field. Although there is an element of randomness in the reaction of vested interests, in general the overreaction to criticism is most severe when the critic is both essentially correct and has professional qualifications that can not be easily dismissed.[9]

Perhaps the most revealing example of suppression concerning pesticides is that which befell Frank Egler. Egler was one of the first ecologists to research the use of herbicides, both for answering certain general questions in plant ecology and for roadside weed control—the latter having been correctly analysed as a waste of money, In two seminal review articles published in 1964 Egler provided more evidence in support of Rachel Carson.[10] Egler should also be given credit for providing the first general review of the significance of suppression in biasing the flow of information concerning a variety of ecological problems, a review published in the same year as Rachel Carson's *Silent Spring*.[11]

It is the response to the second of Egler's review articles on pesticides, published in the journal *BioScience*, which disproves the myth of value-free scientists fearlessly devoted to the search for truth. A major American entomological association voted to censure both Frank Egler for writing the 'offending' article and the journal *BioScience* for publishing it. But, the most damaging fact was revealed only later by an observer at the entomological society meeting where the vote of censure was passed.[12] *Most of the voters at that meeting could not possibly have seen the issue of BioScience with the 'offending' article—for, as a result of delays in sending out the subscription copies, most of the copies of that issue had not been received by subscribers at the time the censure vote was taken.* Many of those censuring entomologists received research money, salaries, or consulting fees from pesticide firms, from captured government bureaucracies, or from client academic departments.

This example of suppression proves what can otherwise only be reasonably suspected in other suppression cases: many academics and scientists are motivated largely by careerist pressures of self-aggrandizement. The entomologists who voted against Egler (and the journal *BioScience*) apparently felt that they did not need to bother themselves with actually reading Egler's 'offending' article. Nor did any of those entomologists publish a article (which would be the proper way to carry out a scientific argument openly). It was sufficient that those entomologists perceived that a scientist had criticised a convenient source of money. Joseph Haberer.[13] in his analysis of the behaviour of scientists also concludes that many scientists are motivated by selfish power seeking, "prudential acquiescence" : a willingness to bend their views to avoid conflict with, and to court favours from, vested interests.

The situation is especially bad in the applied sciences, such as agriculture. Not only are the different interest groups interacting more closely to control scientific and academic eommunity, but the subject itself is insulated to some extent from criticism from other scientific and academic specialists, such as ecologists, rural sociologists, and economists. Indeed, Andre Mayer and Jean Mayer, in their provocative review, define agriculture as "the island empire"[14] in recognition of that degree of isolation from dissenting criticism and the vulnerability to internal and external vested interests.

Bias in the flow of information concerning pesticides has been greatly intensified by the American (and Australian) intervention in Indochina. In the period 1962-1971 American war planes sprayed herbicides over much of Vietnam and parts of Cambodia and Laos. This included approximately 11,000,000 gallons of Agent Orange (an equal mixture of the phenoxy herbicides 2,4-D and 2,4, 5-T in the form of n-butyl esters), 5.2-5.6 million gallons of Agent White (80% trisisopropanololamine salt of 2,4-D and 20% picloram, a toxic and highly persistent herbicide of a class distinct from the phenoxy group); and, 1.1-2.1 million gallons of Agent Blue (sodium cacodylate, a methylated derivative of arsenic, toxic both to humans and to rice and other crop plants).[15]

There have been claims and counter-claims concerning the toxicity of these substances, both to the target Vietnamese population and to American and Australian servicemen. As the chemical names given above indicate, people were exposed to a variety of herbicides. Suppression began even at this most elementary level. Almost all media attention has been directed to Agent Orange, and to its constituent phenoxy herbicides, plus the so-called 'dioxin' contaminant (best referred to by the convenient abbreviation as TCDD). Nearly all of the reference samples from the Agent Orange sprayings were destroyed by the Americans—thus, there are no accurate data on the amount of TCDD, or the amount of other chlorinated dibenzodioxins or dibenzofurans. As the amount of TCDD varies greatly, depending upon the method of 2,4,5.-T manufacture (and, in particular, temperature changes during synthesis of the trichlorophenolate precursor), the actual amount of TCDD can vary by two or three orders of magnitude,

Furthermore, there has been almost no media attention directed to the exposure of humans to Agent Blue, Most of this herbicide was used against rice and other crop plants intended for Vietnamese consumption. The use of a toxic organo-arsenical has the potential for both conversion into other toxic arsenic compounds and some food chain passage. One can only guess that the almost complete suppression of discussion about Agent Blue is related to two factors: First, it was even more obviously being used as a form of chemical warfare against people, Second, while there is enough scientific information to allow one to argue about the degree of toxicity of phenoxy herbicides, few scientists, even those employed as spokesmen for the chemical industry, would wish to be seen by the public as saying that arsenic is not a toxic chemical.

Powerfur political forces in both the U.S.A. and Australia, forces thal supported the aggressive war against Vietnam, have joined the agribusiness lobby to claim that phenoxy herbicides are both innocuous and effective. Many examples of suppression are covered in two books on Agent Orange.[16] and we will not review those examples here. We will, however, review briefly a more recent example of bias in information flow, an example which is especially important.

In Australia, as in the U.S.A., there were many complaints about possible toxic effects to returned servicemen, toxic effects attributed to the use of Agent Orange. After a long delay and some occasional attempts at white-washing the Australian Federal government set up a Royal Commission to investigate the use and effects of chemical agents on Australian personnel in Vietnam. The Royal Commission was presided over by Justice Philip Evatt.

The Report of that Royal Commission is an imposing collection of nine volumes, one of which is a long list of the scientific literature on phenoxy herbicides, together with an assortment of other references. The Report decided that the herbicides did not harm the health of Australian service-men—and then concluded with a virulent attack on environmentalists, such as Rachel Carson, who had dared to raise questions about the toxicity of herbicides and other chemicals.

However, the actions of that Royal Commission have not been without criticism :

1. Some witnesses, whose evidence and opinions questioned the safety of humans exposed to phenoxy herbicides (and the TCDD contaminants), com-plained of being unfairly treated.[17] In particular, the two eminent Swedish epidemiologists who had observed an increase in certain soft-tissue cancers in workers exposed to phenoxy herbicides had their work virulently, if un-critically, attacked.

2. Large parts of the Royal Commission's Final Report were simply plagiarised (word-for-word except for an occasional minor alteration) from the Monsanto Chemical Company's submission document, a document that clearly represented the vested interests of but one side in a very complex dispute. As Brian Martin concluded:[18] : "Of the many instances of plagia-rism which I have studied, this is one of the more egregious cases".

3. The long and strong attack on environmentalists in the Royal Com-mission's Final Report is based extremely closely on a single literature source : Edith Efron's *The Apocalyptics*.[19] This is a wide-ranging and biased accounl; supported by the chemical industry lobby. While the book is cited by the Royal Commission, the reader of that Final Report is not warned how closely the opinions of the Royal Commision and Edith Efron coincide. This would appear to qualify as *idea plagiarism*. It may well be even more significant than the word-for-word plagiarism mentioned in the previous paragraph. There is no evidence that Edith Efron was brought before the Royal Commission and that the opposing parties in this dispute had any

opportunity to cross-examine her views which were to form such a major part of the conclusion to the Royal Commission's Final Report.

Despite the revelation about plagiarism and the unfair treatment of certain scientific witnesses, the Australian government has made no attempt to investigate the conduct of that Royal Commision publicly. Apparently, such behaviour is considered acceptable in Australia.

This example illustrates well the difficulty of evaluating the toxicity and efficacy of pesticides.

Having presented these examples of bias in the flow of information about various agricultural chemicals, with suppression operating at a number of different levels, we can now summarise quickly how the earlier critics of pesticides abuse have been shown to be essentially correct (and, thus, we provide evidence that the suppression of alternative views has caused significant damage). Four distinct sets of factors have contributed to the decline of favour for pesticides.

1. Loss of efficacy of pesticides : the evolution of pesticide resistance by pests.

If pesticides were really all that consistently successful, the post-World War II era of heavy pesticide use should have been characterised by a significant reduction in overall pest damage to crops. The Ehrlichs[20] provide a number of estimates of crop losses to pests, estimates provided by different authorities at different times. The era of high pesticide use does *not* have lower estimates of pest damage. Unfortunately, most estimates of pest damage in growing crops are guesses, and different individual experts will make differing estimates. Post-harvest losses are easier to assess accurately, but these too remain high.[21] Temporary gains for some crops in some places have been cancelled by worsening pest damage elsewhere, pest damage even in the presence of chemical 'control'.

It should also be emphasied that pesticides are not important for many crops. In fact, in the USA, a single crop, maize, receives most chemical input. Maize and cotton together account for approximately half of the insecticide consumed; maize and soybeans together account for almost 70% of all herbicide consumed in American agriculture [22].

There has been a slowly growing awareness that many pesticide programmes are not working well, It has simply been a matter that, however, effective the massive advertising budget and the suppression of dissenting views, an increasing number of farmers and insect control workers have seen with their own eyes examples of the failure of chemical control. An initial response to declining efficacy is to use either higher doses or other (often more expensive) pesticides; the annual loss from such declining efficacy has been estimated to cost about $ 130,000,000 per year in the U.S.A. alone in terms of extra chemical control.[23] Pesticide costs have escalated—with in many instances a parallel escalation in pest damage. Pesticide-resistant pests have delivered the economic coups de grace to a number of multi-million

dollar development fiascos, e.g., the attempt to grow cotton in the Ord River Scheme in the northern Western Australia—where even the use of an organophosphate pesticide that had also been considered for use as a nerve gas ultimately failed to control cotton pests.[24]

The explanation for the inevitable failure of most chemical control programmes is simple straightforward Darwinian evolution, as the first eritics of over-dependence on pesticides had warned. Pest species often have high genetic variability. Monocultural agriculture provides a 'free lunch' for pests, allowing the build-up of large pest populations. This includes the survival of many mutants with sub-normal fitness. By chance alone, a few of these sub-normal fitness mutants have greater pesticide resistance than their fitter relations. (Frequently the pesticide resistance mutation will either keep pesticide away from some critical site or speed up the detoxication of the pesticide, usually by breaking the chemical down into less toxic products.)

Fitness, however, depends on a complex interaction between genes and the environment. When the environment includes pesticides sprayed by humans, the pesticide-resistant mutant survives to reproduce even though its pesticide-sensitive relations do not. Genetic recombination and additional mutations often quickly counteract any initial loss in fitness of the original pesticide-resistance mutation. There is a rapid flux of genetic variants, rising and falling in frequency, as better presticide-resistant mutations replace the poorer ones. The ultimate result is a fitter pest, now adapted to survive well against sprays.

Some mutations convey narrow specificity : resistance to only a single toxic chemical. But, many mutations convey some measure of *cross-resistance* : resistance to a number of different pesticides, usually confined to within one major pesticide class.

Thus, there is a common pattern in pest control; after several successful years of chemical control, there is a decline in efficacy. Higher doses are needed to countract resistance. Soon the farmer must change pesticides. Thanks to cross-resistance, the new pesticide often does not give as good control for as long a period as did the first pesticide. But, new pesticides are increasingly difficult to discover and increasingly expensive to develop.[23]

After 10-20 years, it is not uncommon to find the evolution of *super-pests*. A combination of cross-resistance and multiple resistance results in a tougher pest, resistant to many of the different economically feasible pesticides. A recent review of pesticide resistance warns.[23]

> Arthropods' resistant illustrates how severe these problems can become when a unilateral approach—introducing one new pesticide after another —is followed. Some particularly resistance-prone species—house-flies, certain mosquitoes, cotton bollworms, cattle ticks, and spider mites, among them - have been able to overcome the toxic effects of virtually every pesticide to which they have been extensively exposed..... For agricultural pests, few farmers or pest-control managers have escaped

the impact of resistant pests.....

The "unilateral approach" of reiterated chemical control has had far-reaching complications. Heavy pesticide use, applied to cash crop in Third World countries, has facilitated the evolution of pesticide resistance not only in crop pests but also in arthropod vectors of human and animal disease. Thus, pesticide resistance has become a serious problem to public health programmes as well.

The literature data suggest that the problem of pesticide resistance in pests is accelerating. In 1970 there were 98 pest species resistant to DDT. In 1980 there were 229 pest species resistant to DDT. But, there was even faster evolution against the newer pesticides used to overcome resistance to DDT and related organochlorines. For example, in 1970 only 3 pest species were resistant to carbamate pesticides—but by 1980 that number had increased to 51 species.[23]

As the price of pest control with chemicals has escalated, and as the efficacy has declined, farmers are beginning to demand that governments place more emphasis on research into cheaper and more effective means of biological control. Even some pro-pesticide scientists have had to shift their position more in the direction of alternative pest control (or eradication) paradigms : integrated pest management,[25] sterile male techniques,[26] or improvements in biological control.[27]

2. Ecological damage from pesitcides.

The 1960s anti-pesticide dissenters emphasised the general ecological damage arising from the indiscriminate killing of non-target organisms by pesticides. Rachel Carson and other critics were widely rediculed as "eco-nuts" because of this ecological concern.

Ironically, some of the best evidence for the validity of their concern about damage to the ecological web, the interactions between predators and prey, between consuming organisms and decomposers *etc.*, come from the more thorough studies of pest problems in the context of agricultural ecosystems : notably "the pesticide treadmil" and the creation of secondary pests.

This is not to deny the original claims of widespread damage to more natural ecosystems. There is ample evidence suggesting that widespread pesticide contamination has altered the species composition of natural ecosystems, but there are complications from other human caused changes, such as general habitat destruction, overfishing, and pollution from non-pesticide chemicals, ranging from acid rain to substances which are similar to but distinct from pesticides, e.g., PCB's (polychlorinated biphenyls, widely used for a variety of industrtal purposes and resembling DDT and other organochlorine pesticides in their environmental persistence, food chain concentration, and general toxicological properties).

In contrast to "bird kills", whieh are often associated with particular

spraying events, there are fewer dramatic acute incidents in ecosystem damage. There is a more chronic situation, of exposure to varying amounts of pesticides, including those distributed through food chains. The result is that many individuals collected in the wild contain near lethal levels of pesticide residues, accelerating the natural death rate. Numbers of the more sensitive species decline, resulting in a general shift in species composition. Because of the potentiality for food chain accumulation, a problem with the more pirsistent pesticides, the greatest dumage is often done to predators, especially those at or neer the top of the food chain. Many fish species are important predators in aquatic ecosystems and, thus, environmental pesticide contamination has contributed to the decline of a number of important fisheries.

It is difficult to make a precise estimate of the amount of ecosystem damage. As Frank Egler noted.[10] the lack of adequate long-term multidisciplinary studies in ecosystem ecology has meant that we have only a very incomplete view of pesticide damage to natural ecosystems. Suppression has been especially effective in preventing the emergence of full scale ecological studies needed to assess precisely pesticide damage and other damage from human activities.

Thus, we turn to information from studies on agricultural ecosystems, where persistent pest problems have forced some scientists to adopt a more sophisticated approach (and where long-term financial support has been readily available).

It was soon learned that, in agricultural ecosystems, pesticide kill not only sensitive pests but also their predators and parasites. It is the predators and parasites that normally keep pest number down, even if not always to a sufficiently low level to avoid crop damage. As a chemical pest programme breaks down because of the evolution of pesticide resistance in pests, it is frequently observed that pest numbers increase to levels which are *higher* than ever occurred before chemical control was attempted. This *pest rebound* is the result of the combination of two factors : the evolution of pesticide resistance by the pest, combined with the lack of pesticide resistance among predactors.

The reader might well ask : why, then, do not the predators evolve pesticide resistance too? The answer is that sometlmes they do, but usually only long after the pest has evolved the resistance. Because a predator must eat many prey, predators are usually in much lower numbers than pests. In addition, predators often have longer generation limes than do pests. Thus, predators have less opportunity to evolve pesticide resistance. Furthermore, the few studies which are available suggest that predators often have less genetic variation than do pest species.

Because chemical control programmes often do more damage to predators than to pests, another problem arises : *the creation of secondary pests.* The destruction of certain predator species in an agricultural ecosystem re-

moves the checks and balances operating on certain minor crop-eaters. These minor crop-eaters then become new major pests. For exemple, in several countries it was observed that after a few years of fairly suecessful control of codlin moth with DDT, two-spotted mites become major pests. Normally their numbers are kept down by predators, including predaceous mites. Two-spotted mite sometimes become worse pests than codlin moth. Codlin moth might damage 10-15% of the apple crop, but their numbers can be contained by classic methods of pest control emphasizing mixed agriculture (e.g., chickens to eat conlin pupae underneath fruit trees) and vulnerability at certain times in the codlin moth's life cycle. Two-spotted mite could do more damage : by prematurely defoliating apple trees, crop yields are depressed for years. In this way, pesticides can create new pests that are as bad, or worse, than the old pests.

The combination of the evolution of pesticide resistance in primary pest species with the creation of secondary pest species forced farmers, who were persuaded to stick to the chemical control paradigm, to escalate to the use of a wide variety of increasingly toxic pesticides at higher dose rates : "the pesticide treadmill"[31]—an expensive and dangerous form of addiction.

3. Pesticide damage to humans.

Rachel Carson's *Silent Spring* not only raised questions about toxicity to humans from chronic exposure to low levels of pesticides but even raised the issue of mutagenic effects. Although she was widely ridiculed at the time by pro-pesticide scientists, Rachel Carson has subsequently been shown to have been fully justified in her concern. It is now accepted as proven that a number of widely used pestieides are mutagens. A sizeable fraction of genetic disease in humans is the result of new mutations. It remains to be determined precisely what fraction of new mutations in humans arises from exposure to different chemicals (and to background radiation, medical and dental X-rays, and other sources of anthropogenic radiation); but, few scientists would now ridicule concern about mutation—especially given the partial positive correlation between mutagenicity and carcinogenicity among chemicals.[29]

There are difficulties in assessing whether or not a particular pesticide (or other chemical) poses a cancer risk for humans. Quite apart from numerous examples of suppression, there are fundamental difficulties in assessing cause and effect when studying imperfect samples from human populations.[30] The people who are most often exposed to pesticides are those working in pesticide manufacturing plants or those working as sprayers. Such low-prestige and unpleasant jobs are often performed by social and racial outgroups, legal or illegal immigrants. As a result, many exposed individuals cannot be traced, records are sometimes falsified, or just simply not kept. The social-genetic differences make it almost impossible to find a suitable matched control population which is not exposed to pesticides. Sprayers often use a wide variety of insecticides and herbicides. Many commercial pesticide preparations are complex mixtures of incompletely

identified chemical compounds—quite apart from non-ionic detergents or carrier compounds when dealing with pesticides that have poor water solubility. Accurate measurement of pesticide residues or contaminants seems to be beyond the abilities of certain laboratories; of five highly prestigious institutions measuring levels of the 'dioxin' (TCDD) contaminant only two institutions obtained reasonably accurate results—and the well-equipped laboratory of the vested interest in this case, Dow Chemicals, was rated as "worse than normal".[31]

There are yet additional sources of noise which make it difficult to measure the true signal of pesticide toxicity. Some studies have attempted to use pesticide levels in human body fat, taken during autopsies. While the information is of general use (especially when comparing average levels of exposure in different populations at different times), it is not a fully reliable measure of total pesticide exposure.

Despite these formidable difficulties, there are now many published examples of death and serious injury arising from accidents involving pesticides, proving at the very least that there is a major problem of acute toxicity to humans for many commonly used insecticides and herbicides. Even pro-pesticide groups, such as the World Health Organization (which had initially found pesticides to be extremely effective in reducing malaria and some other diseases carried by insect veetors), have urged caution. It has been estimated by WHO that accidents involving pesticides kill 5,000 people per year, together with injury to 500,000-1,000,000.

Such figures are almost certainly a serious underestimate. Many cases of death are not correctly diagnosed, even in First World countries (where the number of autopsies has declined markedly in recent years), Many cases of serious injury are not reported. Sprayers and pesticide workers sometimes cultivate a *macho* pride in their symptoms and seldom seek medical attention e. g., the "kepone shakes" observed in many workers at the pesticide plant in the U.S.A. We observed that many orchardists do not seek that medical attention upon repeated pestlcide poisoning. Severe headaches, vomiting, involuntary twitching, and chest and muscle pains are just considered part of the aftereffects associated with certain spraying tasks.

Pesticides are responsible for many deaths, including some major disasters. in Third World countries. The 1984 example of Bhopal, in central India, illustrates the problem all too well. The American-based transnational Union Carbide used Bhopal as a place to manufacture a carbamate pesticide by a method what involved a highly toxic intermediate MIC. (metyhl isocyanate). Union Carbide uses a much safer method for synthesizing the same pesticide in the U.S,A. The accident in Bhopal released a drifting mist of MIC—killing over 2,000 people and injuring about 200,000.

It is surprising how frequently agricultural chemicals (primarily pestieides) are involved in accidental injury to children. In 1973 we obtained a breakdown of data on poisoning of children in Adelaide, South Australia.

during the period 1967-1972, data supplied from the National Safety Council of Australia. Out of 8,450 cases of poisoning, "internal medicines" topped the list with 2,641 cases. "Household products" were second with 944 cases. "Pesticides, agricultural and veterinary products" were second with 1,577 cases. "Pesticides, agricultural and veterinary products" were third with 944 cases. This is remarkable when one considers that children have far more opportunity to consume, or otherwise interact with, internal medicines or household products, whereas in many houses there will be few opportunities to be poisoned with pesticides or other agricultural chemicals. As another example of suppression, the response to our 1987 inquiry of the National Safety Council of Australia for an up-dating of these earlier figures was to inform us that such records were not available.

Nearly all data on pesticide toxicity to humans are data on *acute toxicity* where the effect closely follows the cause, often a dramatic effect observed within days or even minutes of exposure. Far less is known about *chronic toxicity* the cosequences of prolonged exposure to low levels, or to repeated small doses.

Recently, it has become recognised that some adverse effeets of pesticide exposure show up only long after the original intoxication episode or after a prolonged period of subclinical exposure: *delayed neurotoxicity*.[34] A further complication is *behavioural change*. where pesticides ultimately lead to neuro-psychiatric problems rather than the more typical symptoms of poisoning. Behavioural changs has been observed in experimental animals exposed to low levels of insecticides or herbicides before birth (or, in the case of birds, exposed to the pesticide prior to hatching).[35] Analysis of data concerned with 37,751 babies in New Zealand, where the mothers had lived in regions subjected to different amounts of spraying with 2,4,5.-T, reveals some association between birth defects and herbicide dose, an association which is statistically significant for one kind of birth defect.[36] The possibility that prenatal exposure (many insecticides and herbicides cross the placental barrier readily) can result in less dramatic symptoms than certain kinds of birth defects, for example, undesirable changes in behaviour or a decline in intelligence, should be thoroughly explored for human populations. The developing nervous system is especially sensitive to chemical injury. Many metabolic mutations in humans result in some degree of mental retardation, or in pathological behaviour. (That exposure of children to low levels of lead could cause a decline in measured intelligence is now a medically accepted fact, although scientists who issued earlier warnings were ridiculed.[37]

Of the long term effects which have elicited the greatest worry there is cancer, where the lag time between exposure to a carcinogenic chemical and the development of cancer is often measured in the 10-30 year range. No marked epidemic of cancer has occurred to match that produced simply by smoking—but that is no grounds for complacency. Although some studies have yielded negative results, other studies have found a statistically significant elevation of certain types of soft tissue cancers in individuals exposed to

phenoxy herbicides.[38] It appears that there are reasonable grounds for concern about the carcinogenic potential of some commonly used herbicides and insecticides.

It is not only humans but also their associated animals which are at risk from pesticides. Some of the more potent pesticides used in Green Revolution agriculture killed even the hardy water buffalo, thereby depriving the farmers of their major source of power for cultivating wet rice fields. In many Third World countries wild or domesticated fish are part of the agricultural ecosystem, grown in rice paddies or in special ponds. These fish are a major source of dietary protein. On the whole, fish are often much more susceptible to pesticide poisoning than either birds or mammals.

4. Polluted Exports

The fouth major cost of pesticides is the only one not considered in Rachel Carson's *Silent Spring* and the writings of other ecologically concerned people in the 1960s. This may be the result of the one major error in the writings of the environmentalists of that period: a failure to realise the extreme difficulties in predicting limits to resource utilisation, including agricultural productivity. Far from the widespread famines predicted by some writers, the 1970s and 1980s have been characterised by rapidly rising agricultural production, with consequent falls in many farm commodity prices in international trading and increased competition among the major exporting countries.

Food contamination has become a political issue in a number of countries. Thus, despite the suppression and the sheer power of the agrichemical lobby, a number of countries have made definite attempts to regulate pesticide use. These include *restricted use* (i.e., the pesticide can be used only on certain crops), *total ban* and limits to the levels of contamination which are considered acceptable in certain foons (with some American limits being set at *zero tolerance* i.e., for certain carcinogenic pesticides no detectable residues are tolerated).

In the 1970s and 1980s we noticed that, almost every year, there were newspaper reports of Australian agricultural produce being rejected by importing countries on the grounds that it was contaminated with unacceptable levels of certain pesticides, We inquired for further information from various governmental agencies. Again, suppression reigned. This is clearly a subject about which the government wishes to restrict discussion—despite the fact that polluted exports, as with the previously discussed product substitution scandals, are probably costing this country billions of dollars in lost markets.

After repeated episodes of polluted exports, matters finally came to a head in 1986-1987. Long after being banned outright, or scheduled only for highly restricted use, In many countries, in 1987 it was reported that American authorities had found high levels of DDT in some shipments of beef from Australia and that this finding has threatened a $750,000,000 a year

export market.[39] At about the same time it was revealed that beef from South Australia was contaminated with cyromazine, a chemical not normally used to treat arthropod pests on cattle but sheep blowfly.[40]

What is required to bring social action on unnecessary pesticide use?

It is the polluted exports theme that brings the final irony to our discussion of the rise and decline of pesticides. The 1960s period of environmental concern resulted in some legislation to limit pesticide use, but such legislation was often either inadequate or unenforced. Supposedly banned or restricted pesticides could often be seen for sale in large quantities in agricultural supply houses or even in retail stores, Some First World countries 'solved' the problem of especially dangerous pesticides, no longer desired for home consumption, by exporting them to Third World countries.

It was not the original 1960s arguments about the ecological damage of pesticides, nor the risks to human health, that resulted in real action (except, to a limited extent, in the USA, and to an even more limited extent in the European Economic Community later).

It was not the rapidly rising number of cases where pesticides failed to give satisfactory control of primary pests, or even created serious secondary pests. Even the many examples of economic ruin brought by "the pesticide treadmill",[29] economic ruin to both small farmers and to major agricultural development projects, were not enough. The evolution of pesticide resistance in pests, predicted on the simple principles of Darwinian evolution and varified by earlier examples, such as industrial melanism, was not enough to break through the suppression barrier. All that occurred was that, by the 1970s and 1980s, some formerly pro-pesticide entomologists—when confronted face-to-face with super-pests—shifted their emphasis in the direction of more balanced pest control programmes, such as integrated pest management.

Finally, after repeated examples of lost export trade due to chemical contamination, the real motivation for action is revealed. In 1987 the headline in Australian newspapers tell the story : "DDT in agriculture to be outlawed", "DDT to be banned by 1988" and, most remarkable of all, "Queensland to press for national ban on DDT"[31] Even the agribusiness-dominated National Farmers' Federation is urging action on polluted exports.[02]

Now we can better understand suppression and its costs. Thanks to agribusiness dominance and sycophantic scientists there has been a 'body count' of thousands of unnecessary deaths and millions of unnecessary injuries. So effective has been the agribusiness lobby that there has been little progress made in devising safer delivery systems for pesticides, let alone only slow progress in biological control and in integrated pest management. Only a direct blow to the private greed of powerful vested interests has brought action on pesticides : the threat to profits lost in the highly competitive market for agricultural exports, □

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Intellectual Suppression : India and the Third World

DHIRENDRA SHARMA

Political activities have suffered in all countries but repression of intellectuals has been particularly acute in the Third World in the post-independence period, since 1945. As the repression is directly an outcome of emerging new ruling forces—one party governments, military-industrial oligarchies and dynastic dictatorships—in predominantly feudal societies, it has been rather difficult for scientists and social scientists in India and other Third World nations to pay serious attention to the question of "intellectual repression" peculiar to political dynamics of the emerging states. These intellectual workers, even when critical of political systems and foreign intervention, have remained discreetly silent on the issues of intellectual freedom perhaps because in India and the Third World, no non-governmental resources available to the academics and the powers of reward and punishment in the hands of ruling elites have increased to unprecedented levels.

Historically the individuals who have received formal education and acquired scientific knowledge have played important role in intellectual activities. The democratisation of knowledge is, therefore, essential for progressive social change in which the intellectuals are directly involved. But ruling elites and industrial vested interests inhibit the social change by supporting the status quo. They try to hold back the sources of information and keep the masses away from the scientific knowledge. It is due to this factor, that a forward looking society must first grant its members formal rights to know and 'freedom of expression'.

In the earlier times when priests and kings were the sole arbiters of life and possession, they monopolised the right to acquisition interpretation and dissemination of knowledge. But in our times, knowledge and information technology must not be conceived as the property of select groups, nations or individuals. The question of intellectual freedom in India and other Third World states is directly linked with the question of dissemination and democratisation of knowledge. Today, only the rich and the politically powerful have the means of funding and controlling sources of information. Over the years, ordinary people thus have been denied their fundamental right to unfettered knowledge.

As we are approaching the end of the 20th Century, we are rudely reminded of repression of human dignity in India, Pakistan and other Third World states, where the power system has systematically crippled the massess in a manner that they have neither knowledge nor the power to demand their civil and constitutional rights.[1]

In 1986, the Supreme Court of India observed :

> Nothing is more cowardly and unconscionable than a person in police custody being beaten up, and nothing inflicts a deeper wound on our constitutional culture than a state official running berserk regardless of human rights. Who will police the police ?
>
> We are disturbed by the diabolical recurrence of police torture, resulting in a terrible scare in the minds of common citizens that their lives and liberty are under peril when the guardians of law gore human rights to death.

The Democratic Paradox of The Third World

The paradox of the Third World is that through parliamentary system we have elected feudal-like lords to preside over our destiny. The messiahs of freedom of yesteryears have become usurpers of political powers and privileges. The trust the people gave to their 'nation builders' enabled them to subvert the very democratic institution which brought them to power. The rulers in most Third World states perpetuate repression and subjugation of their own people.

Nayantara Sahgal, a noted writer, once observed :

> Labels often outlast their original meaning. The Third World so defined itself in order to remain an area of peace, non-aligned with reference to power blocks and the position is not as clear today. Political alignments bedevil it, wars have agitated its countries more than those of the aligned and no common approach to domestic politics binds them, unless it is he belief held by much of the Third World that its people are not ready to run their own affairs and must remain under military or other authoritarian tutelage .....
>
> Ruling oligarchies have thus relegated their own people to an inferior, third-rate status, and arrogated to themselves an assumption of superiority matched only by the Empire in its heyday...
>
> Third World representatives, who pour their wrathfull eloquence against the sins of imperialism on to the floor of the United Nations and other assemblies, lose no sleep over forms of imperial rule, be it benevolent or be brute force, at home. It is not representative governments but dominating cliques that shape their people's future at international negotiating tables, and they cannot be challenged because in a burgeoning body of international laws there is no law that says : Thou shalt not hold thy own people in bondage.[2]

Take, for example, the case of Islamic fundamentalism in Iran and Pakistan. Admittedly there are many fine philosophical principles in the teachings of

Prophet Mohammed. But to force the Koranic rules upon the citizens of contemporary nations whose social aspirations belong to a different technological epoch, simply lead to de-humanization of culture. In these and other Islamic states, intellectual freedom has been denied and free debates and discussions have been suppressed ruthlessly and often inhumanely. Normal academic freedom and open public debates have been totally denied to the people of Islamic states under the orders of their own rulers and in the holy name of Islamic Shariat.

Professor Hassan Zafar Arif : A Concerned Philosoper Jailed in Pakistan

Professor Hassan Zafar Arif of the Department of Philosophy at the University of Karachi, and President of the Karachi University Teachers' Society (KUTS), was arrested on 21 October, 1984. He was held under detention in Karachi Central Jail by the martial law authorities of the Islamic Republic of Pakistan. Prof. Arif is a Concerned Philosopher for Social Action and is a member of editorial advisory board of Philosophy & Social Action. It is learnt from reliable sources that Hassan Zafar has been detained in a class 'C' prison cell meant for common criminals. He was locked up from 6 PM to 6 AM in extremely unhygienic and inhospitable conditions without proper sanitation facilities.

According to the 'Show Cause' notice delivered to Dr. Arif on 26 September, 1984, he had 'indulged and to be indulging in 'agitational activities' which have or are likely to impair the normal functioning and efficiency of the university. But it is strange that according to the Governor and Martial Law Administrator of Sind Province, Lieutenant General Jehandad Khan, Dr, Arif was alleged to have'agitated' in ten areas which included "taking part in politics and political activities, despite the prohibition for employees of the university, advocating activities that may be subversive to law and order ; inciting students to oppose Islamic ways and imparting to students and others a pro-communist orientation." Prof. Arif in his reply had counter-charged the Pakistan authorities of "suppression of all classes and sections of population, labour, students, lawyers, teachers, doctors, journalists and women, and generally unscrupulous treatment of all dissent." This reply to the 'show cause" notice was dated 8 October, 1984, and Dr. Arif was arrested on 21 October, 1984. Dr. Arif, in his 40s, has taught at the University of Karachi since the mid 1970s when having obtained his Ph.D. from the University of Reading in the U.K. he returned to Pakistan. Although one of the founder members of the Teachers' Society at the university, he belongs to no political party but has been outspoken in his criticism of the martial law government of Pakistan. Amnesty International believes he has been arrested because of his peaceful but forceful active opposition to Islamic military dictatorship. The martial law authorities in Pakistan have destroyed all academic freedom and political dissent in the higher educational institutions. A couple of

years ago three university teachers were arrested from the Qaid-i-Azam University, and many other university teachers have received 'show cause' notices. Many professors have been dismissed, arrested or have run away to the western countries. The KUTS expressed its solidarity with all the intellectuals who have faced repression and have demanded the immediate release of Dr. Arif and the others detained in the Islamic Republic of Pakistan[3].

Suppression in Nepal:

The Nepalese royal regime "has persistently violated the human rights of its cttizcns through political imprisonment and torture" reported Amnesty International in November 1987. It eited cases of teachers, journalists, trade unionists and students 'jailed solely for non-violently exercising iheir right to freedom of expression and association'. Though the Nepalese Kingdom solicits rich Christian tourists from advanced countries by offering commercial and consummate comforts including casinos, the Christian community has been persecuted under its stringent religious laws which state that 'no person shall propagate Christianity, Islam or any other faith... to disrupt the traditional religion of the HIndu (majority) community.....'. Indian Prime Minsiter Rajiv Gandhi's Italian (Catholic) wife Sonia was not allowed to enter Nepal's famous Pashupati Nath temple during their official visit to Nepal.

The list of cases of repression in Nepal include the arrest of Mr. Sita Ram Maskey, a member of the Nepal National Teachers' Association, in April 1987, for organsing a boycott of the sale of milk powder received from European Economic Community, feared contaminated by radiation from Chernobyl nuclear disaster. He is still in detention without trial (November 1987).

Mr. Keshav Raj Pindali, a 70-year old editor, and Mr. Rup Chand Bista, a member of Parliament, were charged under the treason laws for a poem deemed critical of the King. The number of political prisoners in Nepal, according to Amnesty International, fluctuated but is believed to be at least 100 at any time and 'many of them are prisoners of conscience.' The report confirms that torture is routinely used to extract confessions from criminal suspects, and sometimes also from political prisoners. Mr. Sarbottam Dangol, another teacher, was arrested in May 1985, and detained for two years without charge or trial, including two months' incommunicado detention. He was hung upsidedown and beaten and left injured in a cell for four days. His leg was broken and had to be put in plaster but the authorities refused to let him be admitted to hospital although recommended to do so by doctors. Eventually he was released in ealry 1987.

Suppression in Kenya :

The tragic dilemma is that Third World rulers themselves seek external assistance of the white nations to repress their own (black) citizens. As the former Vice-President of Kenya, Mr. Oginga Odinga now imprisoned for "treason", has rightly said, "through secret negotiations

between the ruling circles" the United States is actively promoting "economic, political and social imperialism" in Africa and the Third World. Mr. Odinga represents the aspirations of the whole people of the Third World in demanding "the immediate withdrawal of foreign troops from Kenya and a halt in the installation of American military bases in Mombasa.

The intervention of the foreign troops supports forces of the status quo. And as it happened in Chile, Vietnam and Afghanistan, external intervention directly increases the repression against the popular and democratic aspirations of the people.

In most Third World countries, scientists, writers, poets, university teachers, editors of magazines and newspapers are arrested, imprisened, expelled, transferred, demoted and harassed in many ways for taking up critical position vis-a-vis government public policies, especially if the criticism is directed at political repression and science and defence policies.

Professor Maina-wa-Kinyatti Jailed in Kenya for Possessing "Seditious" Publication

On October 18, 1982, Professor Maina-wa-Kinyatti, an authority on contemporary history of East African people and a member of the Advisory Editorial Board of PSA, was sentenced for six years for possessing a "seditious" revolutionary publication.

Immediately Professor Maina was led out of the court handcuffed to begin his long sentence, a group of women, some sobbing, were reported to be raising slogans : Maina Juu ! Maina Juu ! Long live Maina, Long live the Pambana. Chief magistrate Abdul Rauf, in his judgement, said that he found Maina guilty of possessing a document headed "Moi's Divisive Tactics Exposed", contrary to section 57 (2) of the Penal Code of Kenya. The learned Magistrate also observed that a student of political science who had recently appeared before him had lifted the theme, "if not the actual sentences from the judgement in a criminal case against another writer Mr. Wangondu-wa-Kariuki who had also been charged in the same court with possessing the seditious publication. The Chief Magistrate said the principal constittuents of the charge were that the accused had possessed the document without lawful excuse and that the document was seditious.[4]

Since 1982, the Moi Government in Kenya has unleashed a rain of terror and hundreds of students and political opponents have been imprisoned. Mr. Wachira Waruru, a son of a former Nyeri M.P., and a third-year literature student, was arrested from the offices of The **Nairobi Times,** where he was working as a reporter. He was among 14 university students separately charged with taking part in a demonstration intended to incite "disaffection against the Government" of President Moi. There are now more than 100 students of Kenyatta Univeristy College charged with sedition. All educational institutions and the universities were closed for an indefinite period. More than 300 Air Force members have been sentenced to 5 to 20 years imprisonment. Most of the officers were in their early twenties.[5] In November 1987, once

again, the University of Nairobi has been closed for an indefinite period.

The Role of the Heretics

Today's political systems require loyalty of the intellectual for 'war systems' which have emerged from research and developmental activities of big sciences and high technology. The destructive capability acquired through scientific progress is directed to upgrade the capability of political power. The scientists and academics are selected to support and to sustain anti-people and anti-life scientific and political systems as a price to their national honour and social privileges.

The problem of intellectual freedom belongs to the question of 'fundamental rights'. Dissemination of knowledge and examination of various theories, scientific or political, require that those who are engaged in such professions must be free to investigate without fear or favour. They must be free to travel to gather their data and have freedom to publish their findings without censorship They must be free from fear of retribution in consequence of their conclusions that may not be in agreement with the powers of the day.[6]

Bertrand Russell said that if a community had to make progress "it needs exceptional individuals whose activities, though useful, are not of a sort that ought to be general." Heretics are precursors of meaningful change and progress in society. It is the heretics who become instrument of liberation of knowledge from the grips of the believers. The heretics are therefore regarded as "troublemakers' and as a rule are detested by all state powers and established orders. How to deal with the heretics ?

St. Thomas Aquinas (1250 A.D.) suggested a no-nonsense way of handling the infidel :

> With regard to heretics...There is the sin, whereby they deserve not only to be separated from the Church by excommunication, but also to be shut off from the world by death. For it is a much more serious matter to corrupt faith, through which temporal life is supported. Hence if forgers of money or other malefactors are straightway justly put to death by secular princes, with much more justice can heretics, immediately upon conviction, be not only excommunicated but also put to death.

Between the heretics of St. Thomas and the Sakharovs of our times the fundamental problem of intellectual freedom remains the same despite the fact that they are separated in time by about 800 years. Some quantitative change has, however, appeared in the method of "shutting" off the heretics. Science and technological innovations have now provided small groups of state executives with enormous power to repress intellectual dissent. Under the prevailing forces of religious fundamentalism, tribal loyalties. narrow nationalism and ideological fanaticism, the application of science and technology has made oppression more effective, even if now there are human rights demands which have provided some respite. The ruling elites in the Third World, however, give little credibility to civil rights movements.

On 4 September, 1987, in a village of Rajasthan, just about 300 kms away from New Delhi, a young woman named Roop Kunwar, age 18, married only for eight months, was burned alive with the dead body of her husband, age 24, with full social and religious sanctity. On the 13th day after this incident, another ceremoney was held to commemorate the incident as a great event of sspiritual ignificance when about half-a-million people gathered with offerings to honour the goddess "sati" (Suttee) and glorify the medieval Hindu custom banned in the country a hundred years ago. The act was most uncivil and barbaric but no political party in India condemned the incident, except the Left-progressive parties. No Hindu religious leader opposed it and the Prime Minister of India (Mr. Rajiv Gandhi) took no immediate governmental action to stop the madness perpetrated in the name of Hindu faith No-one wanted to invite the wrath of the majority voters who belonged to Hindu community. The country's academicians, as a community, expressed no public indignation against the crime. In such a milieu the heretics can play an indispensable role of questioning the established systems and procedures, and criticising institutional norms and social practices. The role of the heretics, thus, has enormous scope and potential, particularly in India and other Third World nations where the level of education is very low and traditional myths and ignorance still command a strong hold on the minds of the populace.[7]

The Truth Wins - Not Always

As a rule all governments fabricate truth. The dictum that "truth always triumphs" is one of those pleasant fantasies which men repeat after one another till they become common parlance. But historical experiences do not support such assumption. Truth if not suppressed forever, it can be thrown back for centuries As truth per se it has no inherent quality that can survive the advanced technological methods of suppressions, or 'disinformation'. But sustaining the truth all throuth the periods of suppressions which can last for years and centuries, is the historical task of the heretics or the creative intellectuals.

The tolerance a society or state may award to its heretics is the measure of its strength and self-confidence. The Soviet leader Gorbachev demonstrated strength and self-confidence when he restored freedom and honour to Sakharov. But the hundreds and thousands of intellectuals imprisoned in Latin America, Africa and in Asian prisons, in Turkey, Iran, India and Pakistan are evidently indicative of weakness of these governments and their political rulers. The Western powers have yet to fulfill their promise of freedom for Nelson Mandela who has been imprisoned for the last 23 years in South Africa. There is another intellectual who has been in jail for more than twenty years in Singapore : Mr. Chia Thye Poh, a University professor and editor of *Barisan Socialis*. Since 1966 he has been imprisoned without trial. Several hundreds are behind bars also in South and North Korea.[8]

There is no derth of court-intellectuals and academic sycophants in any society. A big army of self-seekers is always ready to serve political

masters of any colour so long as they can be provided with big research grants, high promotions and undeserved positions. Most academics lack the eourage and conviction, to oppose social injustice and political corruption prevailing in the Third World. They fail to hold sanctity of constitutions at the bidding of political rulers who control the financial resources of the state. In comparison to Western scholars, Third World intellectuals have suflered the worst because there are no non-governmental funds available to independent scholars. In India, for example, 90 per cent of research funds and educational institutions are under direct control of the government. The ruling elite over the years since independence has overawed the intellectuals. The heretics have been weeded out of all decision-making bodies. In a country of job scarcity it was made impossible for a dissenting scholar to secure a decent job. The Indian Council of Social Sciences Research and the Indian Science establishments have not encouraged research critical of the governmental policies and performance. Political patronage has thus destroyed the creative vitality of their intellectuals. Those who dared to dissent or criticise the policies of the ruling family of Jawaharlal Nehru, were sent into oblivion. No Indian scientist has, therefore, felt free to criticise, say, militarisation of the country's scientific research, wasteful expenditure on secret nuclear activities, or imbalances in the planning and performance of science policy. But those who publically hail the dynastic successions and perceive the divinity and destiny of India in dynastic rule are honoured as the champion of scientific advancement and honoured with awards by the government. What is expected of academic scholars is not critical assessment but unquestioned loyalty in a feudal manner towards the political elite.[9] In India, for example, even some Marxist academics have secured government patronage by remaining publically uncritical of the Nehru dynasty.

In due course the academic community responded to political overtures and helped the false glorification of petty political ambitions. In such a climate of repression, and rewards, the directiors of national scientific institutions and advanced studies, the Vice-Chancellors of Universities and chairpersons of Atomic Energy Commision and University Grants Commision behave as loyal servants to political rulers. They do not act as autonomous, critical and creative intellectuals or educators of the society.

Conclusion :

Disagreement and dissent are cardinal to academic activity and social progress. If intellectuals are harassed and arrested on the charges of "unhealthy politicization", as is the case with most Third World states, people of the developing countries will suffer long range set-back: Progress in social and political fields will become, by necessity, violent and destructive.

In the pursuit of truth we are intrinsically related to a vast canvas of human history and civilization. In order to be able to protect intellectual freedom and resist various types of political coercion we must reinforce in the academics intellectual courage, love of liberty and a sense of justice.

Such a code of behaviour grows best from an inner commitment to the welfare of the people.

> About 2,300 years ago the Greek philosopher Democritus declared: Poverty in a Democracy is as much to be preferred to what is called prosperity under despots, as freedom is to slavery.

But those academics who seek patronage of the dynastic despots and dictators in India and other Third World states, may find solace in the fact that Plato when defending oligarchy in The Republic had ordered burning of the writings of Democritus. □

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4. See the editorial "Repression in the Third World", and 'Political Unrest in Kenya", in PSA , IX (1) 1983.
5. For details, See PSA., VIII (4) 1982, "Document-2", p. 59.
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8. PSA., XII (4), 1986, 'Document—4", p. 62 on '20 Years" Detention Without Charge and Trial'. Also See, Ivan Fera, "Wait Until Dark", reproduced from The Illustrated Weekly of India, in PSA., XII (4) 1986, pp. 55ff. where the arrest and detention of Dr. K. Balagopal, general Secretary of the Andhra Pradesh Civil Liberties Committee, in 1985 under the Anti-Terrorist Act, is detailed.
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STRENGTH OF AN IDEA

NO ARMY CAN WITHSTAND THE STRENGTH OF AN IDEA WHOSE TIME HAS COME.

VICTOR HUGO

Philosophy and Social Action, 14(1) 1988

REPORT

The case of an Indian Agricultural Scientist: Y. P. Gupta

A case study of a scientist of Indian Agricultural Research Institute (IARI) illustrates the extent of intellectual suppression and victimisation, prevailing in scientific institutions in india.

In a feudal environment where scientists are not encouraged to exercise freedom and scientific dissent, through suppression, harrasment and reprisal by superiors, the case of Dr. Y.P. Gupta is a historical one. He has been persecuted for over 18 years for his scientific integrity. But his scientific career has now been virtually ruined. In contrast, his adversary Dr. M.S. Swaminathan, whose false research claim was questioned by Gupta, rose to the Directorship of IARI and has secured many national and international awards, He even became Director General of Indian Council of Agricultural Research (ICAR) in 1972.

Dr. Y.P. Gupta is a senior scientist, joined IARI, New Delhi, in 1951, at the age of 21. In 1967, he raised a voice of scientific dissent. He was 37 when he questioned the research claim made by M.S. Swaminathan, the then Director of the IARI, to "high lysine content in Sharbati Sonora wheat" Dr. Swaminathan's claim has since been internationally established to be false. It has now been recorded in Encyclopaedia Britannica's 1979 Year book of Science and the Future, that he published misleading data claiming the high content of lysine in this wheat. The process of suppression of the courageous scientist began in earnest by the power system of IARI in 1968. Dr. Gupta was systematically denied research facilities, students, rightful promotions, and faculty membership. For over 18 years, he has been persistently harrassed and being haunted by the power system, even after the highest court of the land, in its judgement, dated 16-12-1983, has vindicated him. He has been still struggling for seeking justice. He is now 57 (1987) and inspite of the favourable judgement, he has not been granted justice.

The Supreme Court indicted ICAR and IARI on their deplorable state of affairs and ruled that Dr. Gupta has been a victim of "unfair treatment because of the malice of Dr. Swaminathan and his coterie since he raised a voice of dissent against his superiors. And that his complaint "is essentially the same as noticed and commented upon by the Committee (Gajendragad-

kar)". The Committee was constituted to investigate the reasons which led to scicide of a brilliant scientist, Dr. Vinod Shah, on fifth May, 1972. Dr. Shah in his suicide note blamed the lack of freedom in the institute which forced him to commit sucide. The Supreme Court held that Dr. Mehta's appointment as senior biochemist was illegal, as he was unqualified, but he has been enjoying utterly undeserved benefits consequeut upon his illegal appointment. The Court also ruled that Dr. Gupta was senior to Dr. Mehta for all purposes" and was entitled to all consequential benefits. Dr. Gupta's rightful status as head of the biochemistry division in the system where order of seniority has been the principal criterion, has not yet been restored to him.

On the other hand, Dr. S.L. Mehta, who was 18 years junior to Dr. Gupta, was found by the Supreme Court not even qualified to hold the junior position, but he has been favoured and has been appointed as head of the biochemistry division in utter disregard of all norms and against all sense of justice. In the orders dated 31-10-85, the Delhi High Court also set aside Dr. Mehta's appointment as head of the division. But the director has re-appointed him in violation of the Court Orders.

According to the report of the Gajendragadkar Committee (1973), page 152 :

> Dr. Y.P. Gupta, who apparently has himself worked on the lysine content of different varieties of wheat, states that in the half-yearly report for period ending October 1968, he had the lysine content of Sonora-64 to be 3.26% but the Head of the Division deliberately changed it to 2.26% so that the Sharbati Sonora might appear in a more favourable light. He seriousty disputes the data on Ihe protein and lysine content of Sharbati Sonora published by Dr. Swaminathan in the November 1967 issue of the journal "Food Industries".

Relevant extracts from the judgements of the Supreme Court :

1. The judgement dated 16-12-83 (1984 (2) SCC 141).

> "The conclusion is inescapable that respondent 6 (Dr. Mehta) did not satisfy the essential qualification pertaining to experience even after the ICAR and its affiliates and respondent no. 4 (Dr. Swaminathan) amplified the essential qualification."
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> "He (Dr. Mehta) did not fulfil the qnalification at all and in our opinion, he even could not have been called for interview by the Selection Committee".
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> "It is therefore difficult to escape the conclusion that purported amplification of essential qualification appears to be a device to exclude Dr. Gupta who fulfilled the first prescribed essential qualification and oblige respondent No. 6 (Dr. Mehta) to fit into altered qualification".
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> "On the face of it, the selcction of respondent No. 6 (Dr. Mehta) for the post of senior biochemist is utterly unsustainable. More so, because there were others who fulfilled all essential qualifications and one is left to speculate the reasons which weighed with the Selection Committee to rejcct them and to select a person who did not fulfil the essential

qualification",

"His (Dr. Mehta) selection and appointment would be required to be quashed and set aside".

"Undoubtedly, respondent no. 6 (Dr. Mehta) by undeserved benefit of improper selection has scored a march over his colleagues in the matter of pay scales to which he would not be entitled".

"Now the post of senior biochemist is abolished, how do we redress the wrong".

"It is not in dispute that Dr. Gupta, the present petitioner, did satisfy this and other essential qualifications".

II. Extracts from the judgement dated 16-12-83 showing malice of Dr. Swaminathan and his coterie (1984 (2) SCC 141).

"Two errors are pointed out in connection with the procedings of the second Selection Committee in which Dr. M.S. Naik (Dr. Swaminathan's deputy) participated, namely, that the proceedings were vitiated on account of bias of Dr. M.S. Naik".

"No explanation is offered what necessitated expanding the Committee by nominating respondent no. 5 (Dr. M.S. Naik) on the Selection Committee, and let it be recalled that the relations between petitioner Dr. Gupta and respondent no. 5 were by that time considerably strained".

"This letter (Dr. Gupta's) was placed before the meeting of the Academic Councll convened on May 3, 1971 chaired by respondent 4 (Dr. M.S. Swaminathan)", "The callous and heartless attitude of the Academic Council (IARI) is shocking. It adds insult to injury. Dr. Gupta has been the victim of unfair treatment because he raised the voice of dissent against certain claims made by the high-up in ICAR in the field of research. Avoiding going into the details of it, this resulted in Dr. Gupta being denied the allocation of students".

"It clearly transpired that Dr. Gupta was hounded out of the faculty membership and now the respondents try to hide this inconvenient faet by treating the cry of agony in the letter dated May, 30, 1970 as letter of resignation. Apart from being harsh, it is an unethical attitude on the part of the ICAR".

III Extracts from the judgement dated 16-12-83 showing indictment of ICAR and IARI (1984 (2) SCC 141).

"One must take note of the deplorable state of affairs of ICAR and the uncongenial atmosphere in which the highly qualified agricultural scientists in this country have to work".

"Since its inception, the domestic atmosphere has not proved congenial to the flowering of the genius of the country's best talent in agricultural research".

"These (suicides) were not stray incidents but the outcome of persecution, torture and harassment emanating from the polluted environment in ICAR and its affiliates".

"Two decades thereafter we are constrained to note that things have not improved at all".

"The ICAR and the institutes seem to be so backward looking in their approach to the members of the staff that as late as in 1983 considerable time of this court was frankly wasted in disposing of the preliminary objection on behalf of the ICAR that it is not amenable to this court's jurisdiction which would imply that they have skeletons to hide and shun their exposure to the court's examination of the internal affairs".

"Like the true Bourbons, the ICAR has learnt nothing and forgotton nothing".

The suppression of Dr. Gupta by Dr. Swaminathan and his coterie and the privileges and patronage enjoyed by Dr. Mehta are indicative of malaise prevailtng in India and other Third World societies. A senior and better meritorious scientist suffered whose only crime has been his assertion of scientific truth. Through manipulation and malice the power elite have bypassed the Court's judgement with one single objective : to continue harassment of a dissenting scientist (Dr. Gupta). Such criminal use of executive powers evidently obstruct the growth of scientific freedom.

(This report is based on personal interview with Dr. Y.P. Gupta, and examination of various documents, and articles.)

—D. S.

No Greater Sin...

I Know of No Greater Sin

Than to Oppress The Innocent

In The Name of *God*

—Mahatma Gandhi.

DOCUMENT

Statement of Ramnath Goenka

age 80, a Gandhian 'freedom fighter' and the proprietor of INDIAN EXPRESS GROUP Newspapers (India)

After a point those working for the truth testify to the state of affair by what is done to them.

In the last 45 days 10 prosecutions have been launched against the Express Group.

About 25 show-cause notices have been issued.

Several of us, including me, have been interrogated again and again.

The customs authorities have detained equipment in Bombay.

An official of the Dirctorate of Revenue Intelligence has said in Bombay that equipment and newsprint being imported by the group is liable to be seized and auctioned.

For reasons which no one in government will cxplain our newsprint quota has not been released since September. In the case of the Bombay publications the quota has not been released even for July-September.

In spite of the opposition of the overwhelming proportion of workers, a "strike" was engineered to stop our publications in Delhi. As of yesterday November 14,600 of the 670 workers and employees reported for work. But, as for all of last month so also yesterday, they could not work from the premises of the Express because of the failure of the police to prevent the violence which is being engineered and organised by outsiders.

And now comes the news that the government has in effect expropriated the building of the Express, all equipment in it, and terminated all our rights to the plot and everything that stands on it.

By a single flourish of its pen we have been reduced to being trespassers in our own premises.

This is in clear violation of every relevant law.

The order alleges that we have not paid what was due. We have filed an explicit undertaking in the Supreme Court that we will pay every penny that is due from us. We have repeatedly ask the government to tell us what it has charged from other buildings in that area. We have repeatedly ask it to furnish us the rules under which the charges are to be determined. It has done neither. And has instead just announced by fiat what it says we owe it.

In any case, even to recover this amount, the government has no right to usurp the building, the plot and the equipment. What it has done is contrary to the explicit orders of each of the three judges of the Supreme Court who decided the matter. Each of them ordered explicitly that should the government feel we have not paid enough, it must file a civil suit to recover the dues. The court explicitly restrained the gevernment from terminating the lease to enforce what it claimed to be its rights pending the disposal of such a suit.

Nor is that all. When these orders of the Supreme Court were brought to its attention, the land and development office itself informed us by its letter of December 17, 1986 that to enforce its rights it would be filing a civil suit.

Instead, we have this act of expropriation, of usurpation.

The remedy to a lawless government is the law. In a recent case the Supreme Court said :

"As long as 'This court sits' newspapermen need not have the fear of their freedom being curtailed by unconstitutional means.

Armed with this faith the Express will return to their lordships for justice, for protection against this lawless, this vindictive government.

As for myself, I shall only say : I will not yield to such high-handedness. to my last breath I shall fight for the principles, for the freedom that we fought for under the banner of Mahatma Gandhi.

That much I pledge to every reader of the Express Groups, to every one who loves freedom in our country.

THE RULERS' DILEMMA

IF THEY LET US FUNCTION,

WE EXPOSE THEM,

IF THEY SILENCE US,

THEY EXPOSE THEMSELVES.

Arun Shourie

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THE PHILOSOPHERS
HAVE ONLY INTERPRETED
THE WORLD IN VARIOUS WAYS.
THE POINT, HOWEVER, IS
TO CHANGE IT

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